



**FIELD OVERSIGHT REPORT  
FOR THE PERIOD  
JULY 7 – AUGUST 6, 2003**

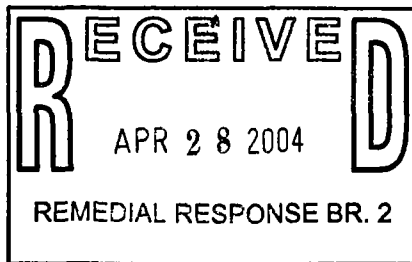
**CHEMICAL RECOVERY SYSTEMS  
ELYRIA, OHIO**

**August 5, 2003**

Prepared by:



2800 Corporate Exchange Drive, Suite 250  
Columbus, Ohio 43231  
614.890.5501



2800 Corporate Exchange Dr., Suite 250  
Columbus, OH 43231-1666

Tel: 614-890-5501  
Fax: 614-890-7421  
www.m-e.com

April 23, 2004

Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period November 26, 2003 –  
April 12, 2004, Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

Metcalf & Eddy, Inc. (M&E) was retained to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. No field work was scheduled to occur during the period November 26, 2003 through April 11, 2004, therefore, M&E has no observations to report for the period. On April 12, 2004 we received from U.S. EPA one copy each of the CRS Site Group's *Site Characterization Summary*, *Memorandum on Remedial Action Alternatives*, and *Memorandum on Development and Preliminary Screening of Alternatives, Assembled Alternatives Screening Results and Final Screening*. We are currently reviewing and preparing comments for these documents, which we will submit to you on or before May 14, 2004. If you have any questions concerning M&E's oversight activities, please contact me at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.

Barry R. Nelson  
Project Manager



November 26, 2003

2800 Corporate Exchange Drive  
Suite 250  
Columbus, OH 43231-1666

Tel: 614-890-5501  
Fax: 614-890-7421  
www.m-e.com

Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period October 30 – November 14, 2003, Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

Metcalf & Eddy, Inc. (M&E) was retained by US EPA to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. During the referenced period, the PRPs' contractor, Parsons, developed and surveyed the newly-installed monitoring wells and collected groundwater samples from these and existing on-site and off-site wells. M&E observed the collection of the groundwater samples.

A selection of photographs recorded by M&E during the report period is contained in Appendix A. The complete set of all site photos taken by M&E is filed electronically at M&E's Columbus, Ohio, office, and can be provided upon request. Appendix B contains photocopies of M&E's site notes for the report period.

The collection of groundwater samples completes the final scheduled task under the Site Characterization phase of the RI/FS. Unless further field work is conducted, this letter will constitute the final Site Characterization Oversight Summary.

## **OVERSIGHT ACTIVITIES**

November 12, 2003

M&E's representative, D. Mark Jones, met Parsons personnel (Rick Volpi, and technician Mike) at the site at about 8:15 AM. Parsons was in the process of measuring water levels in all the wells to be sampled, specifically, on-site wells MW-1, "MW-2/MW-16", MW-5, MW-6, MW-7D, MW-8D, and MW-9D, and off-site wells L-2 and L-3, which are the property of Engelhard Corporation. Rick Volpi explained that Parsons had obtained from Engelhard an access agreement and permission to sample their off-site wells. The name of Parsons' Engelhard contact is Jeff Roberts, at (440) 329-2553.

Before groundwater sampling began, Parsons' rented Horiba meter (for measuring the field parameters pH, conductivity, temperature, ORP, turbidity, and dissolved oxygen) failed to calibrate. The rental company, Pine Environmental, was unable to deliver a replacement to the site, therefore Parsons decided to travel to Pine's office in Hudson, Ohio, to obtain another meter. Parsons left the site at 9:20 AM and returned at 11:15 AM. M&E remained on-site during this time.

After returning with a new meter, Parsons purged and sampled Engelhard monitoring well L-2, on the east site of Locust Street. For purging and sampling all wells, Parsons employed the following procedure: pumping was performed with a MicroPurge<sup>®</sup> bladder pump, configured to operate in 10-second cycles, consisting of 1 second of pumping and a 9-second "rest" period. During purging, Parsons monitored the water level in the well continuously and adjusted the pump discharge rate accordingly, attempting to pump at a rate that would cause the water level to remain stable, achieving equilibrium between the pumping rate and the recharge rate. Purging continued for 10 minutes after pH, conductivity, ORP and temperature stabilized. The well was then sampled using the bladder pump, still pumping at the same rate.

The sampling of L-2 was completed by 1:30 PM and Parsons moved to L-3, also on Locust Street. The flow rate that achieved equilibrium at L-3 was ~150 ml/min. In addition to the samples, Parsons collected a set of duplicate samples from L-3.

The sampling of L-3 was completed by 4:15 PM and Parsons moved to the on-site well identified as MW-2 on Parsons' work plan, although subsequent investigation by Parsons has suggested it is actually Engelhard well MW-16. The equilibrium flow rate at "MW-2/MW-16" was 70 – 80 ml/min, although during sampling, the water level in the well continued to drop, requiring Parsons to lower the bladder pump occasionally.

By the time purging ended and sampling began at "MW-2/MW-16", at about 5:30 PM, it was nearly dark outside and Parsons had no auxiliary lighting. M&E observed that this would have made it difficult to confirm that the VOC sample bottles were free of air bubbles. M&E parked its vehicle near the well and turned on the headlights, although by this time, the VOC samples had already been collected.

Sampling of "MW-2/MW-16" was complete by 6:50 PM, following a period of heavy rain.

#### November 13, 2003

Parsons began with purging and sampling MW-7D. The equilibrium purge rate was ~400 ml/min. In addition to the samples, Parsons collected a set of matrix spike/matrix spike duplicates from MW-7D. MW-7D was complete by 10:40 AM.



Parsons proceeded to MW-8D. The equilibrium purge rate was ~400 ml/min. Sampling of MW-8D was complete by 1:20 PM.

Following a lunch break, Parsons began MW-1 at 1:50. The equilibrium purge rate was ~425 ml/min. Sampling of MW-1 was complete by 3:40.

Parsons proceeded to MW-9D. The equilibrium purge rate was ~250 ml/min. Sampling of MW-9D was complete by 5:30 PM.

M&E observed today that with the higher purge rates, the 1-second pulse of water that discharged from the pump tubing during a pump cycle tended to overfill the 40-ml VOC sample bottles. (At 400 ml/min, with 1 pulse every 10 seconds or 6 pulses per minute, a pulse contains about 67 ml of water.) M&E pointed out that this risked washing out the hydrochloric acid preservative. Parsons stated that sufficient mixing occurred before the bottles overflowed.

November 14, 2003

Sampling of MW-6 began at 8:00 AM. The equilibrium purge rate was ~200 ml/min. MW-6 was complete by 9:45 AM.

MW-5 was begun at 10:30 AM. The equilibrium purge rate was ~200 ml/min. Sampling of MW-5 was complete by 12:25 PM. Parsons and M&E left the site at 1:00 PM.

If you have any further questions concerning M&E's observations during this oversight activity, please contact me or Mark Jones at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.



Barry R. Nelson  
Project Manager

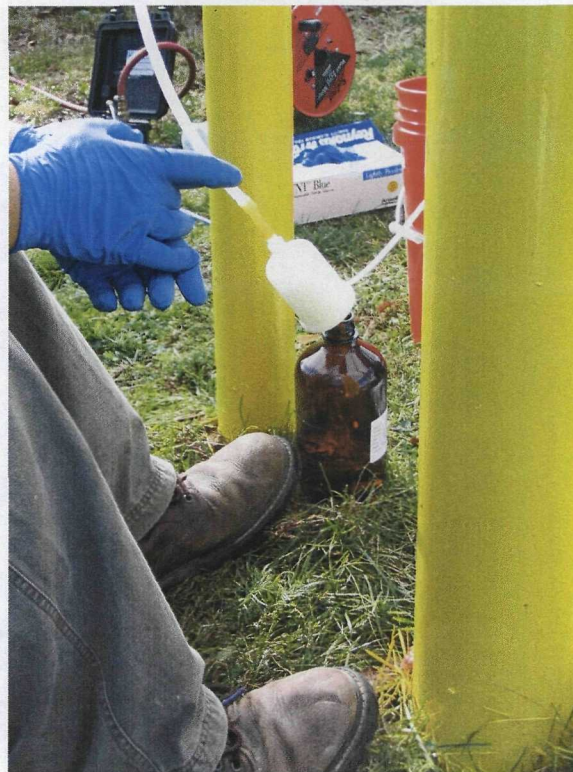
Attachments:      Appendix A: Photographic Log  
                         Appendix B: Copies of M&E Field Logbook for the Report  
   Period

cc: Chris Hagger, M&E (letter only)

**APPENDIX A**  
**PHOTOGRAPHIC LOG**



1. November 12, 2003: Purging off-site well L-2.



2. November 12, 2003: Collecting filtered PCB sample from well L-2.





3. November 12, 2003: Pumping offsite well L-3.



4. November 12, 2003: Car headlamps used to illuminate work at "MW-2/MW-16".

## **APPENDIX B**

**COPIES OF M&E FIELD LOGBOOK**

**FOR THE REPORT PERIOD**

11-12-03 P. CLOUDY, WARM, SPARKS AND 64° FORECAST  
0816 MOE (DMS) ARRIVES AT SITE.

PARSONS (RICK VOLPI AND TECHNICIAN  
MIKE) ARE ON-SITE, GAUGING  
WELLS. RICK SAYS HANSHAW WELLS  
L-2 & L-3 WERE OPENED YESTERDAY  
BUT HAVE NOT BEEN GAUGED YET.  
PARSONS HAS OBTAINED AN ACCESS AG-  
REEMENT WITH HANSHAW (aka  
ENGLEHARD). JEFF ROBERTS IS  
THE ENGLEHARD CONTACT. (PH-329-  
2553).

PARSONS PLANS TO SAMPLE L-2 AND  
L-3 FIRST.

0913 PARSONS RENTED HORIBA METER (FOR  
TESTING FIELD PARAMETERS) IS NOT  
WORKING, SO PARSONS WILL HAVE TO  
GO TO OFFICE OF RENTAL COMPANY  
(IN HANSON) TO PICK UP A RE-  
PLACEMENT. IT WILL TAKE 1.5-2  
HOURS.

0920 MIKE LEAVES; <sup>WITH RICK.</sup> ~~RICK STAYS.~~ MOE  
STAYS.

1115 PARSONS RETURNS WITH NEW METER.

1130 BEGIN SETTING UP APPARATUS AT  
L-2.

1215 \*PURGING L-2

PARAMETERS HAVE STABILIZED.  
WATER LEVEL IS 72.7'

1300 \*SAMPLING L-2 FOR METALS. ~~SHOCK PEG.~~

1318 FINISHED WITH SAMPLING AT L-2. PAR-  
SONS BEGINS TEARING DOWN TO MOVE  
TO NEXT WELL.

L-2 TOTAL DEPTH 75.31'

WATER LEVEL 11.08' AT START OF  
PURGING.

TURBIDITY WAS LESS THAN 50 NTU.

1331 PARSONS BEGINS SETTING UP AT L-3.

1344 DTW IS ~12.6' AT L-3. PURGING BEGINS.

1347 PURGE RATE IS 300 mL/min. TURBIDITY  
IS 3.2 NTU.

1350 WATER LEVEL IS 13.35'. FLOW RATE IS  
~~450 mL/min~~ ~150 mL/min.

1412 PURGING COMPLETE AS PARAMETERS & WATER  
LEVEL STABILIZE. SAMPLING BEGINS.  
PREPARATION BEGINS

1422 \*PUMP SET-UP AT L-3.

1426 MOE LEAVES GITE TO PICK UP A RE-  
PLACEMENT VEHICLE.

1444 MOE RETURNS. PARSONS IS COURTESY  
A DUPLICATE.

60

1612 L-3 IS FINISHED. PARSONS PREPARES TO MOVE ON TO WELL ORIGINALLY KNOWN AS MW-2. (ON-SITE)

1623 \*PHOTOS OF BLUNDER PUMP BEING DECONNED.

1634 PARSONS STARTS WORK AT "MW-2." 28.15' IS TOTAL DEPTH.

WATER LEVEL IS 16.99'.

1731 \*SAMPLING 'MUD' FOR VOCS. IT IS NOW LIKE TO DARK, COULD MAKE IT HARD TO CHECK VOCS FOR AIR BUBBLES.

1736 WELL IS BEING PUMPED AT 70-80 gpm. PARSONS HAS TO OCCASIONALLY LOWER THE PUMP BECAUSE THE WATER LEVEL IS DROPPING RATHER THAN REMAINING CONSTANT AS AT THE OTHER WELLS.

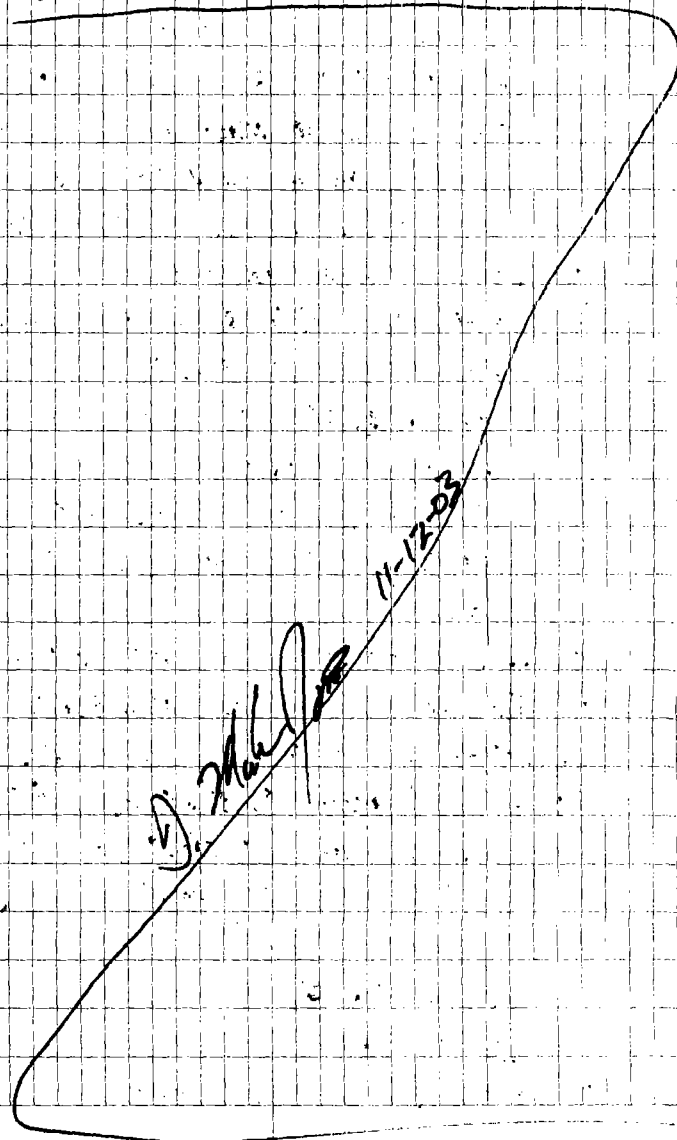
1802 \*PHOTO OF "MW-2" AFTER DARK. PARSONS IS ~~USE~~ USING CAR HEADLAMP FOR LIGHT.

1823 IT BEGINS TO LIGHTNING AND SPRINKLE.

1832 RAIN BECOMES MODERATELY HEAVY.  
1850 SAMPLING COMPLETE, PARSONS

61

BEGINS TO TEAR DOWN.  
1900 PARSONS + M+E LEAVE SITE.





11-13-03 CLOUDY COLD, GUSTS TO 50 MPH,  
FLURRIES AND SNOW FORECAST.

0740 M+E (DMS) ARRIVES AT SITE.

PARSONS (RICK VOLPI) ALREADY  
THERE SETTING UP AT MW-7D.

0757 TOTAL DEPTH OF MW-7D IS 53.55'.  
WATER LEVEL ON 11-12-03 WAS 16.91'.  
TODAY IT IS 16.76'. TRAVIS ARRIVES 0800.

0810 BEGIN PURGING MW-7D.

0830 PURGE RATE HAS BEEN ~400 ml/min.  
WATER LEVEL IS 21.52'.

0850 PURGING ENDS AS TEMP, pH, AND  
CONDUCTIVITY STABILIZE.

0900 SAMPLING BEGINS. PARSONS WILL  
COLLECT MS/MSD SAMPLES AT MW-7D  
ALSO.

1025 \*2 PHOTOS OF SAMPLING AT MW-7D

1040 SAMPLING IS FINISHED. PARSONS BEGINS  
TEARING DOWN + SETTING UP AT MW-8D.

1049 PARSONS BEGINS PURGING AT MW-8D.  
TOTAL DEPTH IS 53.05' (10' SCREEN).  
WATER LEVEL AT START IS 18.67'.  
(IT WAS 19.45').

1139 W.L. IS 24.76'.

1149 W.L. IS 25.22'.

1201 PURGING IS COMPLETE.

1250 SAMPLING OF MW-8D IS COMPLETE.  
HE NOTES THAT DURING VOC  
SAMPLING, PARSONS USES SAME  
PUMPING RATE (400 ml/min) USED  
TO PURGE. THE BLADDER PUMP  
OPERATES BY "RESTING" FOR 9 SEC-  
ONDS AND PUMPING FOR 1 SECOND.  
DURING THIS 1-SECOND SURGE,  
ENOUGH WATER IS DISCHARGED FROM  
THE TUBING TO OVERFILL THE  
40-ML VOC VIAL, RAISING THE  
LIKELIHOOD OF WASHING OUT THE  
NO PRESERVATIVE.

1317 PARSONS BEGINS SETTING UP AT MW-1.  
(ORIGINAL EXISTING WELL)

1320 PARSONS BREAKS FOR LUNCH.

1350 PARSONS RETURNS FROM LUNCH.

1407 TOTAL DEPTH OF MW-1 IS 23.38'.  
W.L. IS 17.21'.

1417 W.L. IS 17.23' DURING PURGING.  
RATE IS ~425 ml/min.

1430 PARAMETERS ARE STABLE AFTER ABOUT  
2 GALLONS OF PULSED SAMPLING  
BEGINS

1517 SAMPLING COMPLETED.



64

1541

1551

PARSONS GETS UP AT MW-9D.

TOTAL DEPTH IS 52.78'

WATER LEVEL IS 14.8' AT  
START OF PURGING.

1603 W.L. IS 18.52'

1609 W.L. IS 19.13'

1614 W.L. IS 19.10'

1621

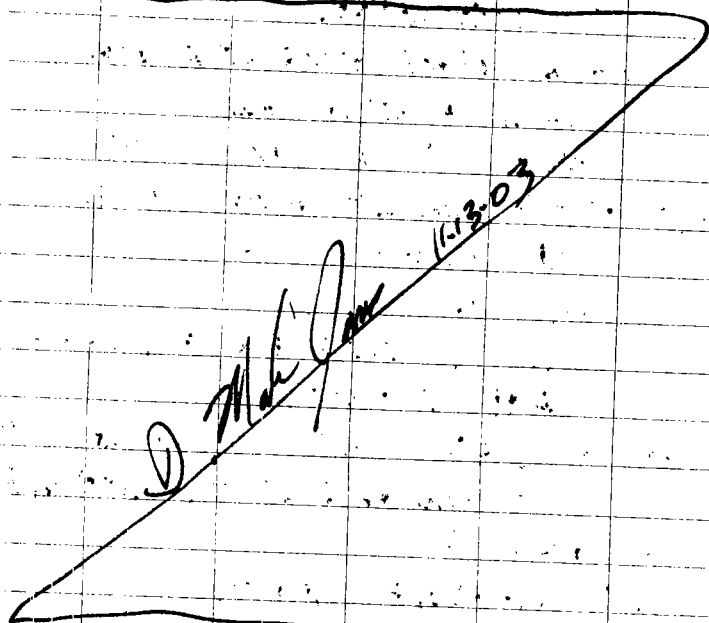
19.03: PURGE RATE IS ~200

ml/min. WELL IS STABLE. PURGING

ENDS. PARSONS PREPARES TO SAMPLE.

1734 SAMPLING MW-9D COMPLETED.

1735 MAF LEAVES SITE.



65.

11H-07 P. Cloudy, cold, breezy.

0755 MAF ARRIVES AT SITE. PARSONS  
(12112 VOLPI; TRAVIS) ARE ON-  
SITE SETTING UP TO SAMPLE MW-6.

0813 TOTAL DEPTH IS 22.82'

W.L. IS 17.01' AT START OF  
PURGING.

0819 17.65' = W.L.

0825 17.70' = W.L. PURGE RATE IS ~225 ml/min

0830 17.72' = W.L. " " ~200 ml/min

0844 17.75 = W.L. PURGING ENDS. PARSONS  
PREPARES BOTTLES FOR SAMPLING.

0945 SAMPLING MW-6 IS COMPLETE

PARSONS GOES TO PICK UP ICE &  
GASOLINE FOR GENERATOR.1030 PARSONS BEGINNING TO SET UP AT  
MW-5 (THE LAST MW).

1044 MW-5 TOTAL DEPTH IS 23.45'

1049 W.L. = 15.42' AFTER PURGING ABOUT  
2 MIN AT 450 ml/min

1050 W.L. = 15.56'

1054 W.L. = 16.08 PURGE RATE = 350 ml/min

1058 W.L. = 16.32

1102 W.L. = 16.46

1106 W.L. = 16.50 PURGE RATE = ~200 ml/min

1112 W.L. = 16.50 WELL IS (DRAINING)

STABLE AS PARAMETERS HAVE REMAINED CONSTANT (WITHIN THE PRESCRIBED LIMITS) FOR THE LAST SEVERAL MINUTES. PARSONS LETS THE WELL PURGE FOR 10 MINUTES WHILE THEY PREPARE SAMPLE BOTTLES.

1124 SAMPLING MW-5 BEGINS.

1224 SAMPLING MW-5 IS COMPLETE.

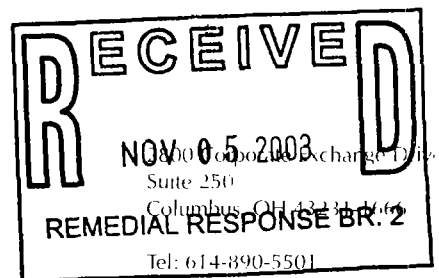
1255 PARSONS LEAVES SITE TO RUN ERRAND, WILL RETURN IN A FEW MINUTES TO COLLECT THEIR TRASH.

1300 M&E LEAVES SITE

J. The ~~Site~~ "H03"



October 30, 2003



Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period October 4 – October 29, 2003, Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

Metcalf & Eddy, Inc. (M&E) was retained to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. During the referenced period, the PRPs' contractor, Parsons, re-collected samples of surface water and sediment from the Black River, collected soil samples from the five remaining proposed soil sample locations, and installed three deep and two shallow monitoring wells. M&E observed these activities, except when USEPA or Ohio EPA personnel were scheduled to be present instead.

A selection of photographs recorded by M&E during the report period is contained in Appendix A. The complete set of all site photos taken by M&E is filed electronically at M&E's Columbus, Ohio, office, and can be provided upon request. Appendix B contains photocopies of M&E's site notes for the report period.

## **OVERSIGHT ACTIVITIES**

### October 13, 2003

M&E's representative, D. Mark Jones, met Parsons personnel (Rick Volpi, and technician Travis) at the site at about 9:30 AM. Rick explained to M&E that a temperature excursion at the laboratory following groundwater, surface water, and sediment sampling during August 12 – 14 invalidated the VOC data from those samples. Therefore, Parsons would re-collect VOC samples of surface water and sediment today. However, Rick explained, resampling of the temporary wells would occur later, following the installation of the five permanent monitoring wells. (This constitutes a change from Parsons' RI/FS work plan, which specified using the data from the temporary wells to assist in placement of the permanent monitoring wells.)

M&E conducted oversight of Parsons during the resampling and photographed the sampling activities. Parsons returned to each sample collection site visited on August 14,

Ms. Gwen Massenburg

October 30, 2003

Page 2

and re-collected the samples in the same manner and order as before, using the same sample numbers.

#### October 20, 2003

M&E (Mark Jones) arrived at the site at 8:12 AM to observe PRP soil sampling activities. Northcoast Drilling arrived at 8:48 AM, with a CME 75 truck-mounted drill rig, four support trucks, and several personnel. Bill Adams, the Parsons geologist for this phase of work, arrived at 9:40 AM.

M&E walked the site with Parsons and the driller (Mike Bentley), while the other Northcoast personnel moved equipment onto the site and built a decontamination pad near the former Rodney Hunt building. Parsons was also waiting for a technician from the City of Elyria to arrive to confirm that the City had no utilities (other than the sewer line) crossing the site.

Rick Volpi of Parsons arrived at 10:20 AM and walked the site with M&E and Bill Adams. It became apparent that Parsons' understanding of where the shallow wells (MW-5 and MW-6) would be located, did not correspond with what M&E had discussed with USEPA the previous week. Due to the uncertainty, Parsons stated that they would not begin installation of any shallow wells until the issue was clarified with USEPA (Ms. Massenburg), who was scheduled to visit the site on October 21.

The Elyria technician (Kevin Kirsch) arrived at about 11:00 AM and stated that he was unaware of any city utilities crossing the property.

The drilling crew went to lunch at 12:00 PM and returned at 12:45. The first soil boring (GP-41) was begun at 1:14 PM. The highest PID reading encountered at GP-41 was 18.2 PPM, from zero to two feet below ground surface (bgs).

GP-42 was begun at 1:54 PM. The highest PID reading encountered at GP-42 was 48.6 PPM, from zero to two feet bgs. Following completion of GP-42, the drill rig was set up at GP-43. Bill Adams stated he needed time to prepare for soil sampling the following day, so he suspended work for the day, and did not start drilling GP-43. M&E left the site at 3:30 PM.

#### October 21, 2003

M&E did not conduct oversight at the site this day due to a scheduled visit by USEPA.

#### October 22, 2003

M&E (Mark Jones) arrived at 7:57 AM. Bill Adams of Parsons briefed M&E on the activities of the day before. Soil borings GP-43, GP-44, and GP-45 had been installed.

MW-7D had been started, using 4¼" hollow stem augers to drill a pilot hole to refusal in sandstone at 17.5 feet bgs. Also, the issue of where the shallow wells should be installed had been resolved with Ms. Massenburg. Parsons' plan for the remainder of the week was to first set casing and grout in all the deep well borings (MW-7D, MW-8D, and MW-9D), and then complete the wells to depth after allowing the grout to set for at least a day.

This morning, installation of MW-7D was resumed, with Northcoast removing the 4¼" augers from the pilot boring and redrilling with 8¼" augers, to 15 feet bgs. Once an air compressor arrived, drilling continued with an air hammer to create a boring in the sandstone to accommodate a 6-inch diameter steel casing. Parsons had initially proposed, during the USEPA site visit, to set the casing at 40 feet, however, shale (the Bedford Shale) was encountered at approximately 35 feet, so the casing was set at 37.5 feet bgs and grouted.

#### October 23, 2003

Drilling was started on shallow well MW-5 early this morning (a deep boring was not begun owing to uncertainty over when casing would be available). The highest PID reading encountered at MW-5 was 10.6 PPM in the 4-foot sample. The split-spoon sampler encountered refusal at about 4 feet, and sampling was suspended and the rig was set up for air hammer drilling. Water was encountered at 14 feet bgs and Parsons ordered the well set at 21 feet bgs. During installation of the sand pack, the sand bridged and the boring had to be redrilled. During redrilling, the air hammer repeatedly clogged with loose sand. Therefore, MW-5 was not completed until about 1:00 PM.

Work on MW-8D was begun at 1:30 PM, since well casing was now available. Rather than drilling a pilot hole with 4¼" augers, MW-8D was begun using 8¼" augers to save time. Auger refusal occurred in sandstone at 8.7 feet and the driller switched to air rotary drilling. PID readings of about 10 PPM were encountered in the shallow rock cuttings from MW-8D and the driller reported an odor from the cuttings at approximately 20 feet bgs. After shale was encountered below the sandstone, a 6-inch diameter casing was set and grouted in place, as was done at MW-7D.

#### October 24, 2003

Ben Heiser of Parsons was on-site today in place of Bill Adams. Work at MW-9D began at 8:50 AM, with split-spoon sampling to a depth of 12 feet. The highest PID reading encountered was 46.4 PPM from the 6- to 8-foot interval. Auger refusal occurred at 13 feet bgs and the driller changed to air rotary drilling. While MW-9D was being drilled, Northcoast began setting a concrete pad and protective casing at MW-5.

The driller reported water in MW-9D at 22 feet bgs, and a zone of softer material from about 25 to 27 feet bgs, along with an unusually large (compared to the other deep

borings) volume of water. The driller reported encountering shale at about 33 to 34 feet bgs. A 6-inch casing was set and grouted in place.

During a walkover of the stream bank, M&E noted a sheen on the surface of the stream between the sampling locations SWSD-3 and SWSD-4. Parsons, Northcoast, and M&E all left the site at about 1:00 PM.

#### October 27, 2003

Parsons' plan for this week was to drill borings MW-7D, MW-8D, and MW-9D to their total depths and set a well in each, using a 4-inch air hammer to bore into bedrock below the casings which had been grouted in place the previous week. Shallow well MW-6 would also be installed by air hammer. Parsons' Bill Adams and Northcoast had arrived and resumed work at MW-9D when M&E (Mark Jones) arrived at 7:57 AM. After the boring reached 46 feet bgs, Parsons measured a water level of 42 feet bgs. The driller removed the tools from the boring and Parsons measured the water level again. It had risen to 14.5 feet bgs. Parsons ordered a well set at 53 feet bgs. Parsons expressed concern that the amount of water in the boring may have been due to failure of the grout around the casing, but said the only way to be certain would be to install a well and subsequently sample it.

After a well was set in MW-9D, work resumed at MW-7D, where groundwater was encountered at 41 feet bgs. Work ended at the site at about 4:30 PM.

#### October 28, 2003

Work resumed in the morning on MW-7D. Once the boring had reached 47 feet bgs, Parsons measured a water level of 42 feet bgs. The groundwater level continued to rise over the next several minutes, to 39.9 feet about 8 minutes later. Parsons ordered a well set at 52 feet bgs.

M&E spoke by telephone at approximately 9:00 AM with Larry Antonelli of Ohio EPA, who said he would visit the site on October 29.

Work on MW-7D was complete by approximately 1:00 PM and the drillers began drilling shallow well MW-6, near the Rodney Hunt still building. The following PID readings were encountered in MW-6:

Depth	PPM
0' - 2'	2.0
2' - 4'	1.4
4' - 6'	632
6' - 8'	> 2,000

Ms. Gwen Massenburg

October 30, 2003

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Groundwater was encountered during the drilling of MW-6 at 13 feet bgs. A well was set at approximately 20 feet bgs.

Following the setting of well MW-6, the drill crew moved to MW-8D and resumed air hammer drilling there. The driller reported groundwater at approximately 37 feet bgs. Parsons, Northcoast, and M&E left the site at approximately 4:35 PM.

October 29, 2003

Parsons planned to complete installation of MW-8D, and install the remaining well pads and protective casings, on October 29. Since Ohio EPA was scheduled to observe these activities, M&E did not visit the site today, but instead contacted Rick Volpi to inquire about the schedule for well development and sampling. Rick stated that groundwater sampling was still several weeks off, and that he would give notice prior to that work. He expected surveying of the monitoring wells to occur the week of November 3, 2003.

If you have any further questions concerning M&E's observations during this oversight activity, please contact me or Mark Jones at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.



Barry R. Nelson  
Project Manager

Attachments:      Appendix A: Photographic Log  
                         Appendix B: Copies of M&E Field Logbook for the Report  
   Period

**APPENDIX A**  
**PHOTOGRAPHIC LOG**





1. October 13, 2003: Resampling surface water and sediment at SWSD-5.



2. October 22, 2003: MW-7D following setting of 6-inch casing, and before drilling to total depth.

Chemical Recovery Systems Site





3. October 23, 2003: MW-5 following setting of PVC and before completion.



4. October 23, 2003: Decontaminating augers by steam cleaning.





5. October 24, 2003: Rig set up at MW-9D, attempting to blow excess water from boring with air compressor.



6. October 28, 2003: MW-7D following setting of PVC and before completion.

Chemical Recovery Systems Site





7. October 28, 2003: Rig set up at MW-6, near Rodney Hunt building.



8. October 28, 2003: Installation of MW-6.

Chemical Recovery Systems Site





9. October 28, 2003: Parsons geologist (left) collecting rinse blank sample from split spoon, with help of Northcoast Drilling employee.

**APPENDIX B**

**COPIES OF M&E FIELD LOGBOOK**

**FOR THE REPORT PERIOD**

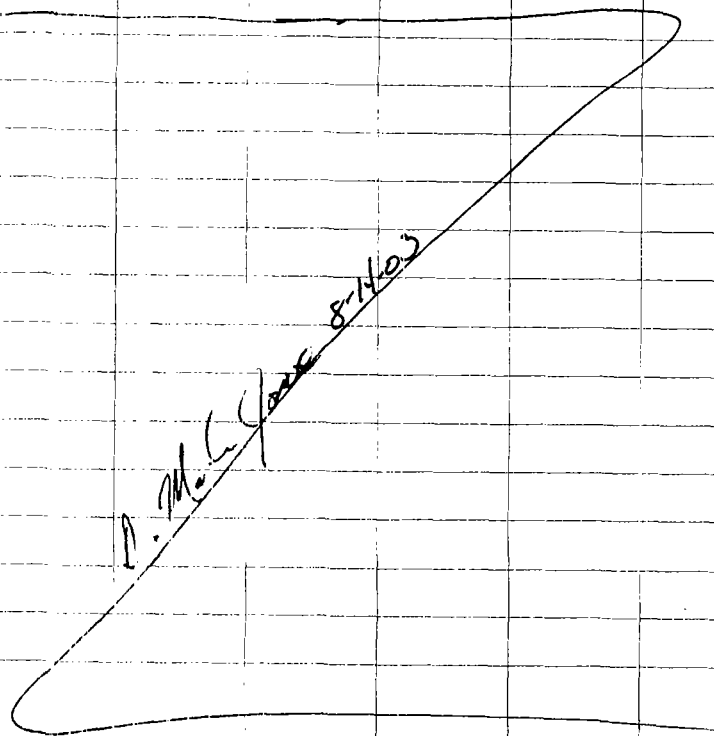
back to Dixon and prepare for next sample.

1800 Start sampling SWSD-6. M+E not observing due to difficulty of access & not having waders.

1843 Parsons returned from sampling at SWSD-6.

1855 Parsons collects rinse blanks.

1926 Rinse blanks finished. Parsons begins packing up. DMJ (M+E) leaves site.



10-13-03 Clear, cool, upper 60s <sup>36</sup> forecast

0806 M+E (DMJ) arrives at site. Parsons not there yet. Surface water & sediment sampling is supposed to be re-done today.

0932 Rich Vulpi & Travis arrive. (Parsons)

0953 Begin re-sampling sediment and surface water at site of SWSD-01.  
\* Sampling surface water  
\* Sample site for sediment.

1000 Today's resampling is for VOCs only, so only 40 ml VOAs and Encores need to be filled.

1011 Begin sampling at SWSD-02.  
\* Water sampling.

1023 \* 2 photos of sampling at SWSD-03.

1042 Sampling SWSD-04.

1047 \* Sampling SWSD-05 (2 photos).

Rich Vulpi says groundwater samples collected in August that were ruined due to temp excursion at lab, will be recollected following installation of monitoring wells.

1104 Parsons wades towards SWSD-06.  
(M+E does not follow).

40

1709 \* 2 photos of sampling at SWSD-04.  
 1118 Parsons is finished sampling. Prepares  
 to pack up samples and leave.  
 1124 M+E leaves site.

*D. M. L. G.*

41

10-20-03 (Clem, 100, 70°F Forecast)  
 0812 M+E (DMS) ARRIVES AT SITE.  
 NO ONE THERE YET. WORK  
 RESUMES TODAY (INSTALLATION  
 OF MONITORING WELLS).  
 0900 DRILLERS ARRIVE (NORTHCOAST DRILLING)  
 1 DRILL RIG AND 4 CHASE TRUCKS.  
 0940 BILL ADAMS OF PARSONS ARRIVES.  
 0950 PARSONS WALKS SITE WITH DRILLERS.  
 BILL SAYS HE IS WAITING FOR RICK  
 VOLPI AND ELYRIA CITY TO ARRIVE.  
 HE WANTS TO INSTALL 5 BORINGS  
 ALONG THE SEWER LINE BEFORE  
 BEGINNING WELLS. NEEDS CITY  
 TO LOCATE SEWERS. HE IS NEW  
 TO THIS SITE AND NOT FAMILIAR  
 WITH IT.  
 1005 DRILLERS MOVE EQUIPMENT ONTO  
 SITE AND BEGIN BUILDING DECON  
 PAD.  
 1020 RICK VOLPI ARRIVES, WALKS SITE  
 W/ DMS M+E & BILL ADAMS. M+E  
 POINTS OUT THAT THEIR PROPOSED  
 SHALLOW WELL LOCATIONS ARE DIFFER-  
 ENT THAN WHAT APPEARED TO  
 APPROVE LAST WEEK.



42

GP-41 GP-42

1750 RICK VOLPI AGREES THAT MIN  
LEAST LOCATIONS APPROVED BY  
BIVEN ARE UNCLEAR BUT, HE SAYS,  
THEY WILL NOT PUT IN WELLS  
UNTIL TOMORROW, WHEN SHE WILL  
BE ONSITE.

1100 DRILLERS ARE STILL SETTING UP.  
CITY OF ELYRIA (KEVIN) HAS COME  
AND GONE; SAID HE IS UNAWARE  
OF ANY SEWER LINES ON PROPERTY.

1140 DRIVER (WIRE) BEGINS SETTING UP ON  
FIRST SOL BORING.

1200 DRILLERS BREAK FOR LUNCH  
BEFORE BEGINNING WORK.

1245 DRILLERS RETURN FROM LUNCH,  
FINISH SETTING UP DECON LINE  
NEXT TO DRILL RIG.

1314 DRILLING BEGINS AT GP-41.

1338 BORING ENDS IN SANDSTONE AT 6'.  
BACKFILLED WITH BENTONITE.

1354 DRILLERS START ON GP-42.  
BILL ADAMS COLLECTS MUSHES.

1437 FINISHED WITH GP-42.  
DRILLERS BEGIN TEARING  
DOWN ON THIS BORING.

GP-41, GP-42

43

AND REMAINING, GP-42:

DEPTH	PPM
0-2	46.6
2-4	30.5
4-6	0.8

PID RESULTS, GP-41:

DEPTH	PPM
0-2	18.2
2-4	15.2
4-6	5.2
6-8	1.4

DRILLER SETS UP DRILL RIG ON NEXT  
BORING (GP-43) BUT WILL NOT  
DRILL TODAY. PARSONS DECIDES TO  
QUIT DRILLING FOR TODAY TO GET  
READY FOR TOMORROW (PREPARE  
LABELS, ETC.)

1530 MUE LEAVES SITE.

*[Signature]*

10-22-03 CLOUDY, COLD (40%) BREEZY

0757 M+E (DMS) ARRIVES. PARSONS (BILL ADAMS) ALREADY THERE. DRILLERS ARE ARRIVING.

0810 BILL ADAMS BRIEFS DMS ON YESTERDAY'S WORK. GP-43, GP-44 & GP-45 WERE INSTALLED YESTERDAY. GWEN MASSEN-BURG RESOLVED UNCERTAINTY OVER WHERE SHALLOW WELLS WOULD GO.

ONE WILL GO NEAR GP-20 AND ONE NEAR GP-29. MW-7D WAS STARTED WITH  $\frac{1}{4}$ " HSA, ENCOUNTERED REFUSAL AT 17.5'. TODAY DRILLERS ARE COMING TO ~~BILL ADAMS~~ <sup>4 1/4"</sup> AUGERS & SET ~~4"~~ STEEL

CASING TO 17.5', THEN DRILL TO 35' WITH AIR HAMMER, AND SET ~~WELL~~ DRILL TO ~17.5' WITH  $\frac{1}{4}$ " S. THEN THEY WILL SET CASING TO ~30'. WELL WILL GO TO ~60'.

0920 DRILLER (MIKE BENTLEY) HAS GONE TO 15' WITH  $\frac{1}{4}$ " HSA. PREPARED TO SET UP AIR HAMMER. (COMPRESSOR IS STILL ON ITS WAY).

1015 AIR COMPRESSOR HAS ARRIVED AND IS BEING HOOKED UP. ~~HAVE~~ <sup>HEAR</sup> BELL OCCASIONAL

MW-7D

45

SPRINKLES OF LIGHT RAIN ARE FALLING. 1035 DRILLER IS LETTING AIR BLOW INTO BORING IN PREPARATION FOR OPERATING AIR HAMMER TO GO DOWN TO 30'.

1050 COMPRESSOR IS OVERHEATING AND SHUTTING DOWN. DRILLERS CALL COMPANY THAT SUPPLIED IT.

1100 ~~REPRESENTATIVE OF COMPRESSOR SUPPLIER~~ ARRIVES. COMPRESSOR IS RESTARTED.

DRILLER BEGINS OPERATING AIR HAMMER. BEN HIESER (sp?) OF PARSONS HAS ARRIVED. HE WILL TAKE OVER ON FRIDAY (W) HAS COME TODAY TO GET FAMILIAR WITH JOB.

1125 BILL ADAMS TELLS M+E HE HAS SPOKEN TO RICK VOLPI AND RICK HAS DECIDED THAT MW-7D SHOULD BE CASED TO 110'. AIR HAMMER IS NOW DOWN TO 25'.

1150 DRILLERS BREAK FOR LUNCH.

1230 GWEN MASSENBURG OR EDA CALLS DMS TO BE SURE I HAD BEEN TOLD OF THE CHANGES TO THE PROPOSED WE PLAN FOR THE WELLS.

(DEPTH OF 60' AND THE PLACEMENT OF THE SHALLOW WELLS). SHE ALSO SAID THAT THE LOG SHE AND OTHERS HAD BEEN LOOKING AT ON 10-21, WAS NOT FORM-2, AS HAD BEEN THOUGHT BUT WAS FOR MW-7B. AN ENGLEHARD WELL.

1310 DRILLER HAS REACHED CLAYEY MATERIAL AT ~35' (BEDFORD SHALE). BILL ADAMS CALLS RICK VOLPI TO SEE IF HE WANTS TO PLACE CASING HERE INSTEAD OF AT 40'.

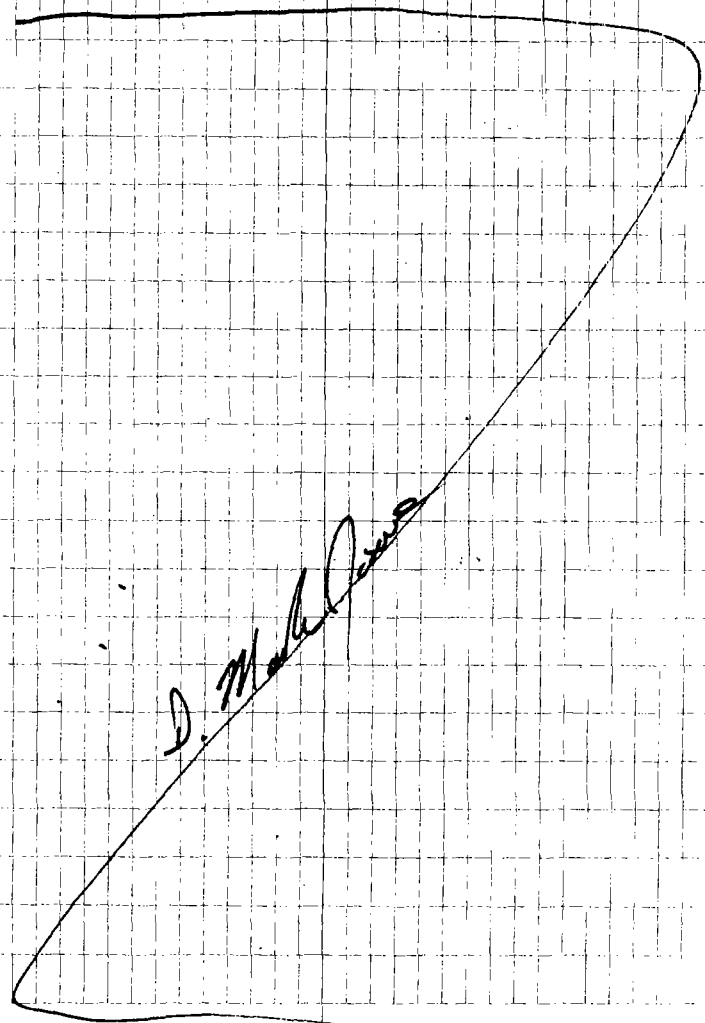
1320 RICK VOLPI HAS OK'D SETTING CASING AT 35'. DRILL CREW PREPARES TO WELD 2 20' SECTIONS OF CASING TOGETHER.

1510 CASING HAS BEEN WELDED AND CUT TO LENGTH; DRILLERS BEGIN SETTING IT IN BOREHOLE.

1610 CASING HAS BEEN SET; DRILLERS PREPARE TO LEAVE.

TAKE PHOTO OF CASING SET IN MW-7D. BILL ADAMS PLANS TO SET CASING AT THE OTHER TWO DEEP WELLS, AND POSSIBLY

COMPLETE THE SHALLOW WELLS, BY FRIDAY  
1615 DRILLERS, PARSONS, + M-E LEAVE SITE.



MW-5

MW-8D

4

10-23-03 CLOUDY COOL (40°)

0800 MAE (DMS) ARRIVES AT SITE. PARSONS (BILL ADAMS) AND SOME NORTHCOAST DRILLERS ALREADY THERE.

0819 DRILLERS DON'T HAVE ANY CASING AVAILABLE SO THEY WILL INSTALL THE SHALLOW WELLS TODAY.

0825 DRILLERS START MW-5

0920 MW-5 ENCOUNTERS ROCK AT ~4'. DRILLERS BEGIN TO SET UP FOR AIR HAMMER DRILLING.

0937 AIR HAMMER STARTS.

7.5 ppm 0-2'

3.3 ppm 2-4'

10.6 ppm 4'-4.2'

} PID RESULTS AT MW-5.

1015 MW-5 ENCOUNTERS WATER AT 14'. WELL WILL BE SET AT 21'.

1045 BEGIN SETTING WELL.

1100 SAND PACK HAS BRIDGED. DRIVER REMOVES PVC AND STARTS TO RE-DRILL WELL TO REMOVE SAND.

1300 MW-5 FINALLY FINISHED. NG SETS UP ON MW-8D. MW-5D WAS SET TO 21' WITH 10' OF SCREEN AND SAND PLACED TO 2' ABOVE SCREEN.

\* PHOTO OF MW-5.

1330 START DRILLING AT MW-8D. (8 1/4" CASING) 1300 SPOON REFUSAL AT ~8.7'. PARSONS INSTRUCTS DRIVER TO DRILL AS FAR AS POSSIBLE, TO AVOID REFUSAL, BEFORE USING AIR HAMMER.

1400 DRIVER BEGINS SWITCHING TO AIR ROTARY.

1450 PARSONS REPORTS PID READINGS ABOUT 10 PPM FROM MW-8D. ALSO REPORTS DOOR FROM CUTTINGS ABOUT 20'.

1505 DRILLING HIT ~~SANDSTONE~~ SHALE BELOW THE SANDSTONE. PARSONS INSTRUCTS DRIVER TO DRILL 2' INTO SHALE AND SET THE 6" STEEL CASING (CASING HAS ARRIVED).

1530 AFTER SETTING CASING, DRILLERS PREPARE TO LEAVE.

1600 BILL ADAMS EXPLAINS THAT BEN HIEBER OF PARSONS WILL BE ON SITE TOMORROW IN HIS PLACE. HE LEAVES THE PID, SAMPLE JARS, AND THE GATE KEY WITH DMS TO BE TRANSFERRED TO BEN TOMORROW.

50

THE PLAN FOR 10-24 IS TO  
INSTALL CASING AT MW-9D  
AND, IF THERE'S TIME, TO  
INSTALL MW-6.

1105 PARSONS + M+E LEAVE SITE  
(DRILLERS HAVE LEFT)

D. M. G. [Signature]

MW-9D

51

10-24-03 P. Cloudy, ~~cool~~ (40°)  
0750 M+E (DMS) ARRIVES. BEN OF  
PARSONS + JERRY OF NORTHEAST  
DRILLING ALREADY THERE, WAITING  
OUTSIDE GATE. DNT OPENS SITE  
AND BRIEFS BEN ON YESTERDAY'S  
WORK + TODAY'S PLAN

0800 REST OF DRILLING CREW (MIKE B.,  
TIM E. + DWAYNE) ARRIVES, NOBBS  
TO MW-9D AND BEGINS TO SET  
UP.

0827 \* 2 PHOTOS OF AUGER. STEAM CLEAN-  
ING.

0851 \* 7<sup>th</sup> HAND AUGER SAMPLE FROM  
MW-9D.

0906 \* PHOTO OF 2 1/2' SAMPLE FROM  
MW-9D.

0910 \* PHOTO OF 6' SAMPLE FROM  
MW-9D.

0914 \* PHOTO OF 8' SAMPLE FROM  
MW-9D. FILL OVER FRAC. SANDSTONE  
BLOW COUNT: 1-1-1-18.

0920 \* PHOTO OF 10'-12' SAMPLE FROM  
MW-9D.

0941 DRILLER REPORTS AUGER REFUSAL AT 13'.  
WILL CHANGE TO AIR ROTARY DRILLING.

1003 BEN MEASURES MW-5 WATER LEVEL IS 11.4' AND TOTAL DEPTH IS 28.0'.

1021 DRILLER REPORTS A PROBLEM WITH THE AIR HAMMER. IT'S NOT POUNDING. THEY MAY HAVE TO REMOVE IT AND TAKE IT APART.

1026 AIR HAMMER IS WORKING AGAIN.

1030 PART OF DRILL CROW IS SETTING A PAD AT MW-5.

1048 DRILLER REPORTS WATER AT 22.0'

1050 \*PHOTO OF AIR ROTARY DRILLING AT MW-9D.

1111 DRILLING ENCOUNTERED A SOFT ZONE AT 25.0'-27.0'. LOTS OF WATER GUSHING\*

1117 \*PHOTO OF DRILLING AT MW-9D

1121 \*PHOTO OF WATER SPRAYING OUT OF MW-9D UNDER AIR PRESSURE.

1145 DRILLER REPORTS BORING IS IN SHALE AT 37'. HE IS NOT CERTAIN WHAT DEPTH SHALE WAS ENCOUNTERED AT, MAY BE 33'-34'. WILL BEGIN SETTING CASING.

1217 \*PHOTO OF SHEEN ON SURFACE OF CREEK, APPROX. IN AREA OF BWN SWSD-3 AND SWSD-4.

\*DUE TO AIR PRESSURE.

1236 CASING IS BEING SET (40' LONG)  
PID RESULTS FROM MW-9D:

DEPTH	PPM
0-2'	16.7
2-4'	34.3
4-6'	31.8
6-8'	46.4
8-10'	24.6
10-12'	20.4

1250 DRILLERS PREPARE TO LEAVE.

1255 DRILLERS LEAVE.

1259 M+E LEAVES SITE. PARSONS IS PREPARING TO LEAVE.

*Handwritten signature*

54

MW-90

10-27-03 M. CLOUDY, COOL (40°)

0810 DUTY OF MFG ARRIVES AT SITE.  
PARSONS (BILL ADAMS) AND NORTH-  
COAST DRILLING ARE ALREADY THERE.  
WORK HAS RESUMED AT MW-90.  
(PARSONS + NORTHCOST WERE HERE  
AT 0730).

0835 DRILLER REPORTS WATER AT 39'.  
HE IS AT 41' NOW AND IS  
STILL IN WATER. PARSONS INSTRUCTS  
HIM TO DRILL 5 MORE FEET.

0914 PARSONS MEASURES WATER LEVEL. IT  
IS AT 41' ~~40'~~ ~42'.

0941 AFTER REMOVING TONS, WATER IS  
AT 14.5' BELOW GRADE.

0945 PARSONS ORDERS A WELL TO BE SET  
AT 53', WITH 10' OF SCREEN AND A  
SAND PACK TO 2' ABOVE SCREEN.

DRILLER BEGINS ADVANCING TO  
55'. PARSONS EXPRESSES CONCERN  
AS TO WHETHER THE CASING IS ALLOW-  
ING WATER INTO THE BOREHOLE, BUT  
THERE IS NO WAY TO BE SURE UNTIL  
WELL IS SAMPLED.

1430 MW-90 IS FINISHED (EXCEPT FOR PAD),  
RIG IS MOVED TO MW-70.

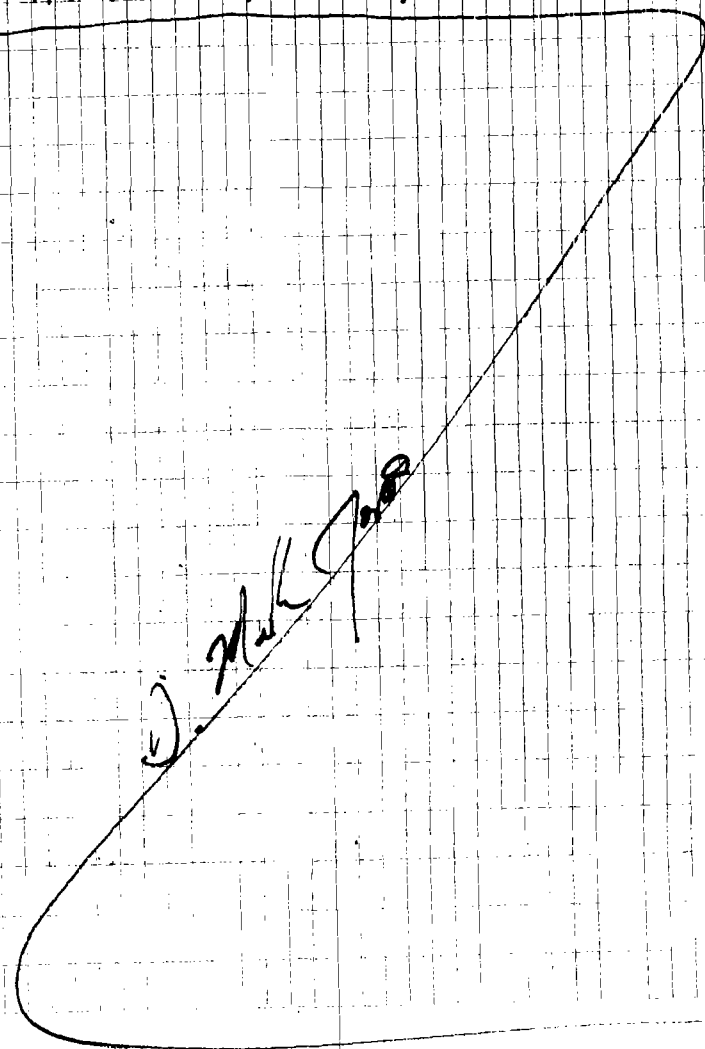
MW-70

55

1000 DRILLING BEGINS AT MW-70

1630 DRILLERS PREPARE TO LEAVE DRILLER  
REPORTS WATER AT 41'.

1635 ALL (DRILLERS, PARSONS, MFG) LEAVE SITE



56

MW-70

10-28-03 CLOUDY, COOL (40°)

0750 M<sup>rs</sup> (DAD) ARRIVES AT SITE. PARSONS (BILL ADAMS) AND DRILLERS ALREADY THERE. WORK HAS RESUMED AT MW-70.

0820 PARSONS MEASURES WATER LEVEL IN MW-70 FOLLOWING DRILLING, AT 42' AND STILL RISING. (BORING IS AT 47').

0820 WATER IS AT 39.9' PARSONS INSTRUCTS DRILLER TO SET A WELL AT 52'. DRILLER RESUMES ADVANCING BORING.

1110 BEGIN SETTING PVC.

1200 DRILLERS HAVE SET SAND PACK & BENTONITE SEAL (SCREEN 52' TO 40', SAND TO 40', BENT. SEAL TO 32.5'). DRILLERS GO TO LUNCH

1235 DRILLERS RETURN FROM LUNCH & RESUME WORK ON MW-70.

1255 FINISHED SETTING MW-70, DRILLERS PREPARE TO MOVE TO MW-6.

1305 START DRILLING MW-6.

1307 \* PHOTO OF MW-70.

(131) \* PHOTO OF 0'-2' SAMPLE AT MW-6.  
PID RESULTS FROM MW-6:

DEPTH	PPM
0'-2'	200

MW-6, MW-80

57

DEPTH	PPM
2'-4'	1.4
4'-6'	637
6'-8'	>2000

1337 \* PARSONS COLLECTING RINSE BLANK  
1414 DRILLERS BEGIN SETTING WELL (SCREENED 20'-10'). ENCOUNTERED WATER AT 13'.

1444 \* 2 PHOTOS OF RIG AT MW-6.  
1456 DRILLER ~~RELOCATES~~ MOVES RIG BACK TO MW-80

1512 DRILLERS BEGIN DRILLING AT MW-80.  
1626 DRILLERS PREPARE TO LEAVE.  
DRILLER REPORTS WATER IS AT 37'.  
OHIO EPA (LARRY ANTONELLI) WILL BE ON-SITE TO OBSERVE TO MORROW; M<sup>rs</sup> WILL NOT BE HERE  
1655 ALL LEAVE SITE

*D. M. [Signature]*





October 3, 2003

2800 Corporate Exchange Drive  
Suite 250  
Columbus, OH 43231-1666

Tel: 614-890-5501  
Fax: 614-890-7421  
www.m-e.com

Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period September 6 – October 3, 2003, Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

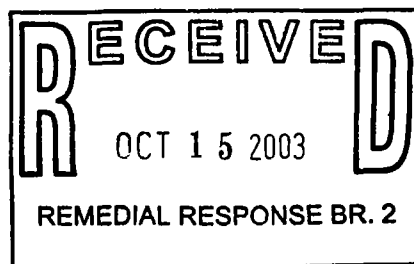
Metcalf & Eddy, Inc. (M&E) was retained to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. No field work was scheduled to occur during the period September 6 through October 3, 2003, therefore, M&E has no observations to report. We have received notification from U.S. EPA that the PRPs' contractor, Parsons, intends to resume field work on October 9, 2003. As discussed during a September 26 conference call between M&E and you, D. Mark Jones is currently scheduled to provide oversight of field activities on October 9, 10, and 13, and Ohio EPA will conduct oversight of activities following those dates.

If you have any questions concerning M&E's field oversight observations, please contact me or Mark Jones at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.

Barry R. Nelson  
Project Manager





Rec'd 9/11/03  
September 5, 2003

2800 Corporate Exchange Drive  
Suite 250  
Columbus, OH 43231-1666

Tel: 614-890-5501  
Fax: 614-890-7421  
www.m-e.com

Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period August 7 - September 5, 2003, Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

Metcalf & Eddy, Inc. (M&E) was retained to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. During the referenced period, the PRPs' contractor, Parsons, collected samples of groundwater from temporary wells, and sampled surface water and sediment from the river bordering the site.

A selection of photographs recorded by M&E is contained in Appendix A. The complete set of all site photos taken by M&E is filed electronically at M&E's Columbus, Ohio, office and can be provided upon request. Appendix B contains photocopies of M&E's site notes and the site drawing used in the field by M&E to document activities.

**OVERSIGHT ACTIVITIES**

August 12, 2003

M&E's representative, D. Mark Jones, arrived outside the site at 8:03 AM on August 12, 2003. The site was locked and no one had yet arrived. Personnel from Parsons (Rick Vulpe, and technicians Kristen and Travis) arrived at 9:15 AM. Rick gave the technicians a site walkover and a health and safety briefing.

Rick told M&E that the analytical data from the July 2003 soil sampling had been received from the lab, but that it had been forwarded for data validation and he was not familiar with the results.

Rick left the site shortly after the safety briefing and the technicians began checking water levels and preparing for sampling. During this, M&E noted that a roll-off box, which during the July field work had been on the southern portion of the site, outside the fence, adjacent to M&M Aluminum Siding, had been moved to roughly the area of Former Drum Storage Area 2 (Appendix A, Photo 1). Also since the July work, several

fresh piles of wood chips had been dumped in the northern portion of the site (Appendix A, Photo 2).

Parsons found that of the eight 1-inch PVC temporary wells that had been installed in July 2003, only three, GP-6, GP-14, and GP-16, had water at this time. Parsons attempted to develop the temporary well in GP-14 by purging it with a peristaltic pump. After more than 30 minutes of trying, the peristaltic pump did not produce any flow. The pump mechanism would spin, but no water was drawn into the tubing. Parsons verified that there was water in the well and that the pump was able to move water from a bucket placed at the same level as the pump. Parsons moved on to the temporary well in GP-16. After about 40 minutes of trying, the pump did not move any water from GP-16 either. Parsons called the supplier from which the pump had been rented and arranged to have a replacement brought to Elyria.

Following lunch, a replacement pump was delivered and at about 1:00 PM Parsons resumed trying to develop the wells. The temporary well in GP-14 purged dry after 2 or 3 seconds of pumping.

GP-16 was purged next. Initially, the purge water had a solvent-like odor and during purging, PID readings as high as 300 ppm were recorded in the well riser. The purge rate used was about 1 liter per minute. Parsons continued purging until an estimated 20 gallons of water were removed. Temperature, pH, and conductivity had stabilized by this time, but turbidity was between 100 and 150 NTU, above Parsons' target of 5 NTU. Parsons decided to end purging GP-16 after about 1.5 hours of pumping.

Temporary well GP-6 purged dry after about 45 minutes of pumping. However, when Parsons changed the elevation of the tubing after the 45 minutes, the pump flowed very quickly for a few seconds and then produced no further water. It appeared that during the pumping, all the water available in the well had been suspended in the tubing. Changing the tubing elevation caused the suspended water to be purged instantaneously. Therefore, M&E concluded that GP-6 probably recharges very slowly.

Parsons told M&E that since GP-6 and GP-14 purged dry so quickly, they would be purged again the following morning before sampling.

During today's work, Mr. Muzick (of M&M Aluminum siding, who rents the site from the property owner) and several of his employees were driving their vehicles on the site throughout the day. Some of the employees were transferring debris (such as roofing shingles) into the roll-off box, which brought them very near the site activities. This continued for the three days that M&E was on-site and apparently is on-going.

Larry Antonelli (Ohio EPA) was on-site today, from approximately 10:50 AM to 2:00 PM.

August 13, 2003

Parsons technicians Kristen and Travis prepared to sample GP-6, GP-14, and GP-16. Since GP-14 had purged so quickly the previous day, it was sampled with a 3/4-inch bailer. GP-14 bailed "dry" after four 40-ml vials were filled. Parsons decided to return to it later to extract more sample, and then moved on to GP-16. They purged GP-16 with a peristaltic pump and began sampling it with a 3/4-inch bailer, but recovery was very poor and it took several minutes to fill three 40-ml vials. M&E pointed out that Parsons' Field Sampling Plan (FSP) specified that all wells would be sampled by pumping. Kristen answered that her orders, per Rick Vulpe, were not to sample for VOCs using a peristaltic pump, and to do all sampling with bailers. M&E answered that sampling by bailer was going so slowly that it would take the better part of the day to obtain enough water for the full set of samples, duplicates, and QA/QC samples, and that the samples obtained would not be representative of static conditions. Parsons agreed and decided to sample using the peristaltic pump. However, pumping required silicone tubing, and Parsons had only the short length of tubing the pump had been delivered with. Parsons said they would decontaminate the tubing in order to use it for sampling, but M&E suggested that they use new tubing at each well.

Parsons called their rental supplier and requested a supply of new tubing to be delivered to Elyria. Sampling activities resumed later that afternoon after the tubing arrived. Parsons was able to obtain a full set of samples, including duplicates and QA/QC samples, from GP-16, using the peristaltic pump. Recharge at GP-6 was poor and they were able to fill only three 40-ml vials. Parsons submitted the three vials from GP-6 for VOC analysis, and discarded the four 40-ml vials that had been obtained from GP-14.

Larry Antonelli (Ohio EPA) was on-site from approximately 9:40 AM to 3:00 PM.

August 14, 2003

Kristen and Travis performed surface water and sediment sampling from the five proposed locations as shown in Figure 2-1 of the Field Sampling Plan. An extra set of samples was collected from below a 12-inch diameter clay outfall pipe above the bank of the river, for a total of six sample sets. All sample sites were marked with stakes for later surveying.

The final set of surface water/sediment samples (SWSD-6) was collected near the upstream bend in the river, past the boundary between the CRS site and Englehard's property. Parsons' technicians had to wade through the stream to access this location. M&E was not able to follow them to observe sample collection from the final location due to the lack of safe access by land.

Ms. Gwen Massenburg  
September 5, 2003  
Page 4

Footings were difficult on the soft, muddy riverbank, and stepping on this saturated material, even where above water, sometimes caused plumes of fine material to be released into the river. Although Parsons followed their FSP and collected water samples first and sediment samples second, M&E could sometimes observe small eddies of sediment being stirred up from the bottom during water sampling. Because the bank and river bottom were so soft, rather than wading into the water, Parsons collected sediment from the mud that was directly underfoot and aurally exposed.

Parsons collected rinse blanks and, following the end of sampling activities at 7:30 PM, M&E left the site. The massive power outage that affected the Midwest and Northeast U.S. had occurred that afternoon, however, M&E has no subsequent communications from Parsons stating that the outage prevented them from properly shipping the samples to the laboratory.

If you have any further questions concerning M&E's observations during this oversight activity, please contact me or D. Mark Jones at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.



Barry R. Nelson  
Project Manager

Attachments:      Appendix A: Photographic Log  
                         Appendix B: Copies of M&E Field Logbook and Site Plan

**APPENDIX A**  
**PHOTOGRAPHIC LOG**





1. August 12, 2003: Roll-off box left near Former Drum Storage Area 2.



2. August 12, 2003: Recently-dumped wood chip debris.





3. August 12, 2003: Attempting to purge temporary well in GP-14 with peristaltic pump.

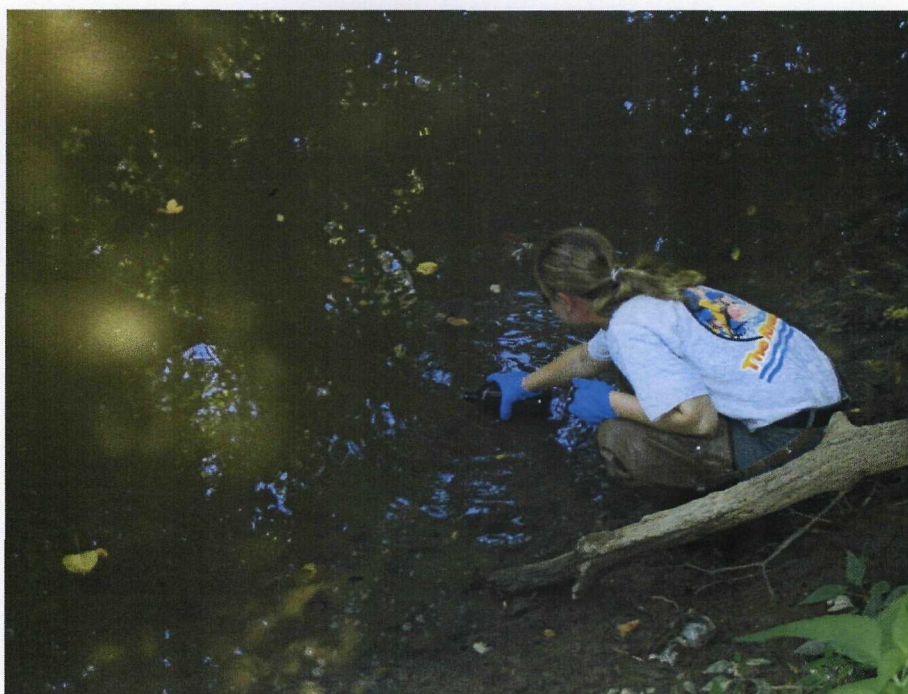


4. August 13, 2003: Sampling temporary well in GP-14 with a  $\frac{3}{4}$ -inch bailer.



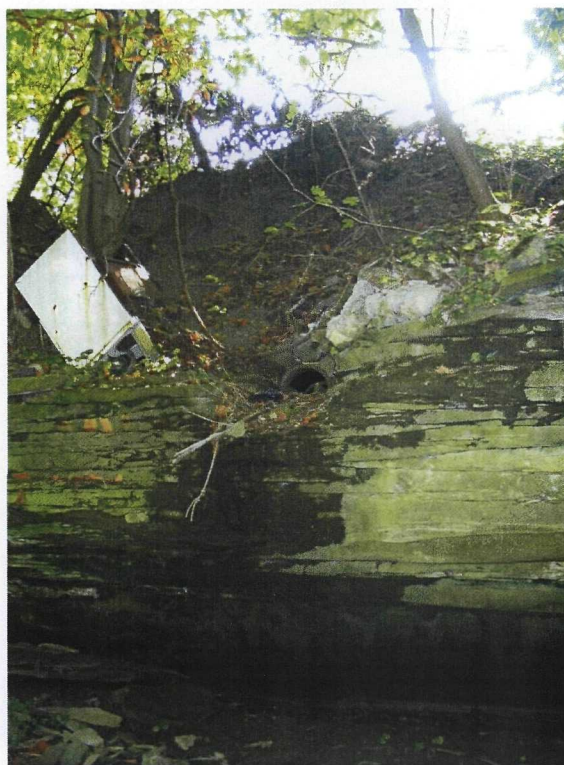


5. August 13, 2003: Workmen unloading roofing materials into roll-off box, very near GP-16.



6. August 14, 2003: Surface water sample at SWSD-1.





7. August 14, 2003: 12-inch clay outfall pipe above river bank. SWSD-2 was collected below this pipe.



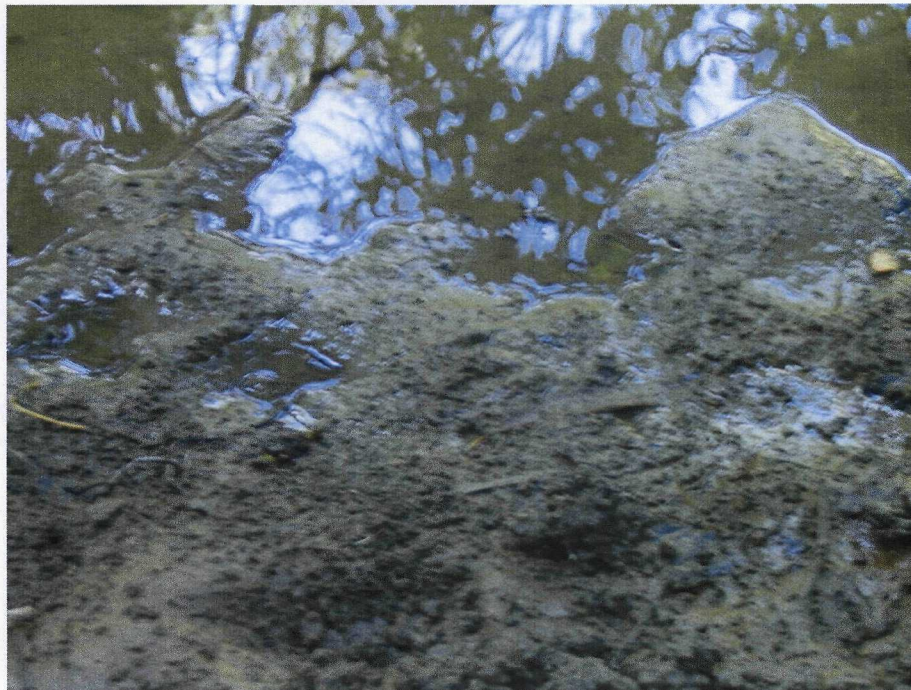
8. August 14, 2003: 10-inch steel outfall pipe above river bank. SWSD-3 was collected below this pipe.

Chemical Recovery Systems Site



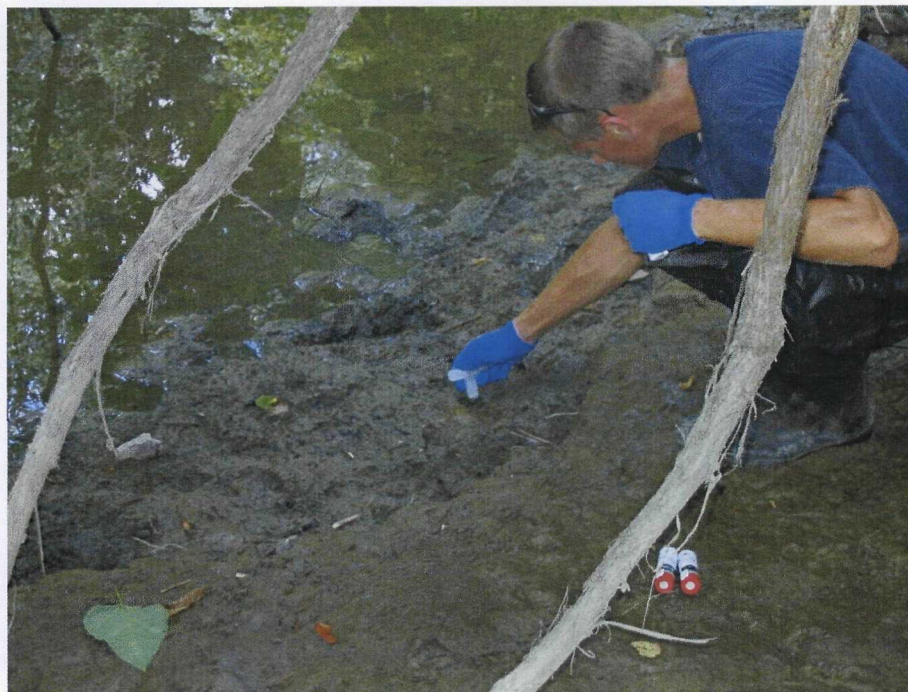


9. August 14, 2003: SWSD-2 sampling site, below 12-inch clay outfall.

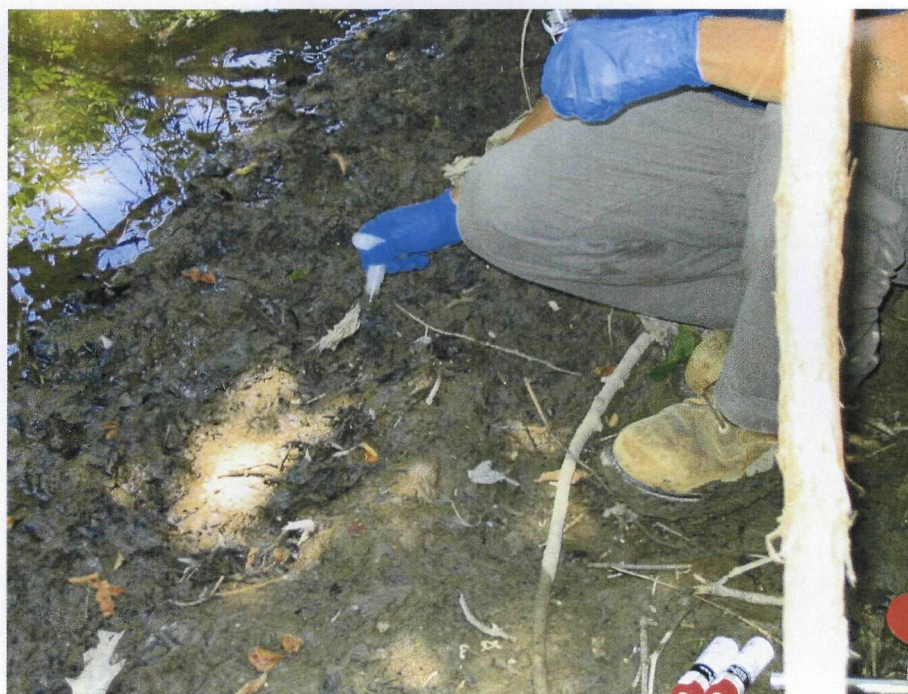


10. August 14, 2003: Sheen on water and sediment at SWSD-2.





11. August 14, 2003: Sediment sample collected at SWSD-2.



12. August 14, 2003: Sediment sample collected at SWSD-3.





13. August 14, 2003: Sediment sample collected from SWSD-4.



14. August 14, 2003: Water sampling at SWSD-5.

8-12-03 - Activities scheduled to resume today.

Warm, hazy, m. sunny

0803 MTE (DMS) arrives at site. Gate is locked, no one appears to be here. MTE goes to McDonald's to use restroom.

0812 Return to site, still no one here.

0815 Parsons arrives (Rick Volpe, Travis, & Kristen) to begin wells today, sampling tomorrow

0920 Rick gives techs a site walkover and a H+S briefing. A dumpster is on site, Rick doesn't know where it is there. Also, more brush & wood chips have been dumped in former AST area.

\* Photo of dumpster (actually a roll-off box).

0935 Rick says data from Geoprobe sampled was rec'd the other day and sent off for validation, but he hasn't seen it yet.

0941 Techs checked TW GP-2: Dry

0945 TW in GP-4: Dry

0947 TW in GP-14: Water

0950 TW in GP-14: Dry

0954 TW in GP-16: Water at 14.23'

0959 TW in ~~GP-17~~ GP-26: Dry

1001 TW in GP-6: Water at 14.24'

1004 GP TW in GP-37: Dry

\* Pile of wood chips

1010 The roll-off box used to be over on the south portion, outside the fence, during the soil sampling phase.

Techs prepare to develop the 3 wells.

1022 \* Pumping at TW in GP-74.

1030 L. Aronelli of OEPA arrives

1056 No luck getting peristaltic pump to work at GP-14, after 30 min. of trying. Techs move on to GP-16.

1104 Tried pumping at GP-16, no luck either. tubing appears too small, or water is too far below pump.

1140 Still <sup>no</sup> luck. Techs call Pine Environmental to have them bring another rental pump.

1210 All go to lunch. After lunch, Parsons needs Pine, gets another pump.

1300 Return to site w/new pump.

1315 Begin pumping at GP-14 w/new pump. It works, but well purges dry after only 2-3 seconds. Then will return periodically, giving

1325 ~~it~~ time to recharge between purgings.

1325 Move on to GP-16. Purge water hits a solvent-theodor. Water is dark & turbid

but becomes clear after ~1 gallon. Parsons moves the tubing up + down to induce more fines into the tubing.

1401 PID reading in bucket of purge water is 2.8 ppm after ~11 gals purged.

1405 PID reading of 17 ppm.

1412 PID reading of 300 ppm in well riser.

General note: Several people have been coming + going during the day, apparently working for Mr. Muzick (sp?). About 1450, a man in a white truck came and dumped shingles into the dumpster.

1456 Finished purging GP-16. Turbidity is ranging between 100 + 150.

1501 Map as to GP 6.

GP-6 purges very slowly; recharges at about same rate it is pumped.

1201 After ~45 min of purging, only 1.5 gals have been removed. Water has become less cloudy, but is still turbid. Parsons decides to stop purging for now, will purge again in morning before sampling.

1405 Begin packing up to leave.

1415 M. leaves site

J. Mark Jones 8-12-03

8-13-03

Hazy, warm (~70°F), m. sunny.

Groundwater sampling today

0800 M.E. arrives at site. Parsons not yet there.

0915 Parsons reaches (Krisen + Truitt arrive).

0935 Begin sampling GP-14. This not recharged much. Then ~~was~~ filled only 2 volts before it went dry. They will keep the 2 volts to use as a sample if they can't get any more water out.

General Note: They are sampling w/a bailer even though plan calls for use of a pump. Rick Vulp ordered them not to use a peristaltic because of concerns it may affect the VOC samples and ~~th~~ he also ordered the use of a bailer.

1005 Begin sampling at GP-16. Flowing at ~450 ml/min. Water is clear. They are purging w/peristaltic pump. Turbidity is 30. (Larry Antonelli of OEPA arrived at 0940).

They have been doing all purging (today + yesterday) using same silicone tubing in peristaltic pump. Small chance of cross-

contamination if pump should be run backwards for any reason.  
1010 Kristin reports PID read 568 ppm when well was opened.

1045 Purging GP-6 is finished; sampling by bailer starts. First bailer doesn't work well; they get another bailer. Water comes up silty & cloudy, in contrast to what was being pumped a few minutes ago.

1100 Bailing is very slow; it takes several min. to fill a few VOA's. Kristin calls Rick VJpe. This method of filling probably loses VOA's to the air and is not representative of aquifer conditions.

1110 Rick was not in; she left a message.

I suggest using the per. pump to get the non-Vol samples, but they must get fresh silicone tubing. A Hadder type would probably not work well with so little water and the bailer will clearly not get a representative sample, being so slow. Kristin calls rental company to order more silicone tubing.

A truck pulls up and unloads more Shinkyles into the dumpster.

\* Photo of truck being unloaded.

1130 Pine Rental Company will bring more silicone tubing out to site.

1132 Res-me sampling at GP-14, with barker. Filled 1 more VOA for a total of 3. Will submit as Vol samples.

1147 Recharge at GP-6 is only fair. Kristin decides to ~~direct~~ discard samples from GP-14, fill 3 VOAs from GP-6, and submit them, since recharge at GP-6 is better than at GP-14.

1150 L. Antonelli goes to lunch

1200 Parsons goes to lunch

1215 L. Antonelli returns. DMS leaves site.

1545 DMS returns to site. Parsons was able to pump GP-6 and get all samples, including RAD/QC. They got 1 more Vol from GP-6 before giving up. They also took all rinse blanks. L.A. stayed on-site until ~1500.

1550 All leave site.

D. La Crosse 8/13/23



8-14-03

Hot, sunny

0800 M+E (DMS) on site.

0940 Parsons (Frisen + Travis) arrives

Today surface water + sed<sup>m</sup> sampling takes place. According to FSP:- S of each, downstream to upstream, surface water 7<sup>st</sup>, then the sed<sup>m</sup>.- If any fluids are discharging from any conduits in bank, a sed<sup>m</sup> sample will be taken there.

Analyses: VOCs, SVOCs, metals.

0955 \* SWSD-1 at downstream end of property.

\* Filtering M<sup>+</sup> sample at SWSD-1.

\* 12" clay outfall in bank

\* 10" corr. steel outfall.

\* Sed<sup>m</sup> sampling at SWSD-1

1025 Finished sampling at SWSD-2. Return to top of bank to decon, prepare bottles for next sample.

1151 Begin sampling at SWSD-2. This is an extra, unplanned sample being taken below a 12" outfall in the bank. There is a slight depression or swale, which constitutes a drainage channel below the outfall. The sed<sup>m</sup> sample is being taken from the

bottom + center of this channel. The water sample is being taken from the river right at the mouth of the depression.

\* SWSD-2

\* Sampling sed<sup>m</sup> w/ an Ekore sampler.\* \* Two photos attempting to show the sheen on the mud at SWSD-2. This is the sed<sup>m</sup> that was sampled.

1230 Finished at SWSD-2, ready to move on.

1259 Start sampling at SWSD-3.

\* Sed<sup>m</sup> sampling at SWSD-3 w/ Ekore sampler

\* Surface water sampling at SWSD-3.

1341 Finished at SWSD-3

1350 Parsons breaks for lunch

1450 Parsons returns from lunch, begins setting up for next sample (SWSD-4)

1510 Begin sampling at SWSD-4.

\* Sed<sup>m</sup> sample at SWSD-4.

1545 Finished at SWSD-4, climb to top of bank to decon + prepare for next samples

1634 Begin sampling at SWSD-5.

\* Sampling at SWSD-5.

1725 Finished at SWSD-5. Climb to top of

back to riceon and prepare for next sample.

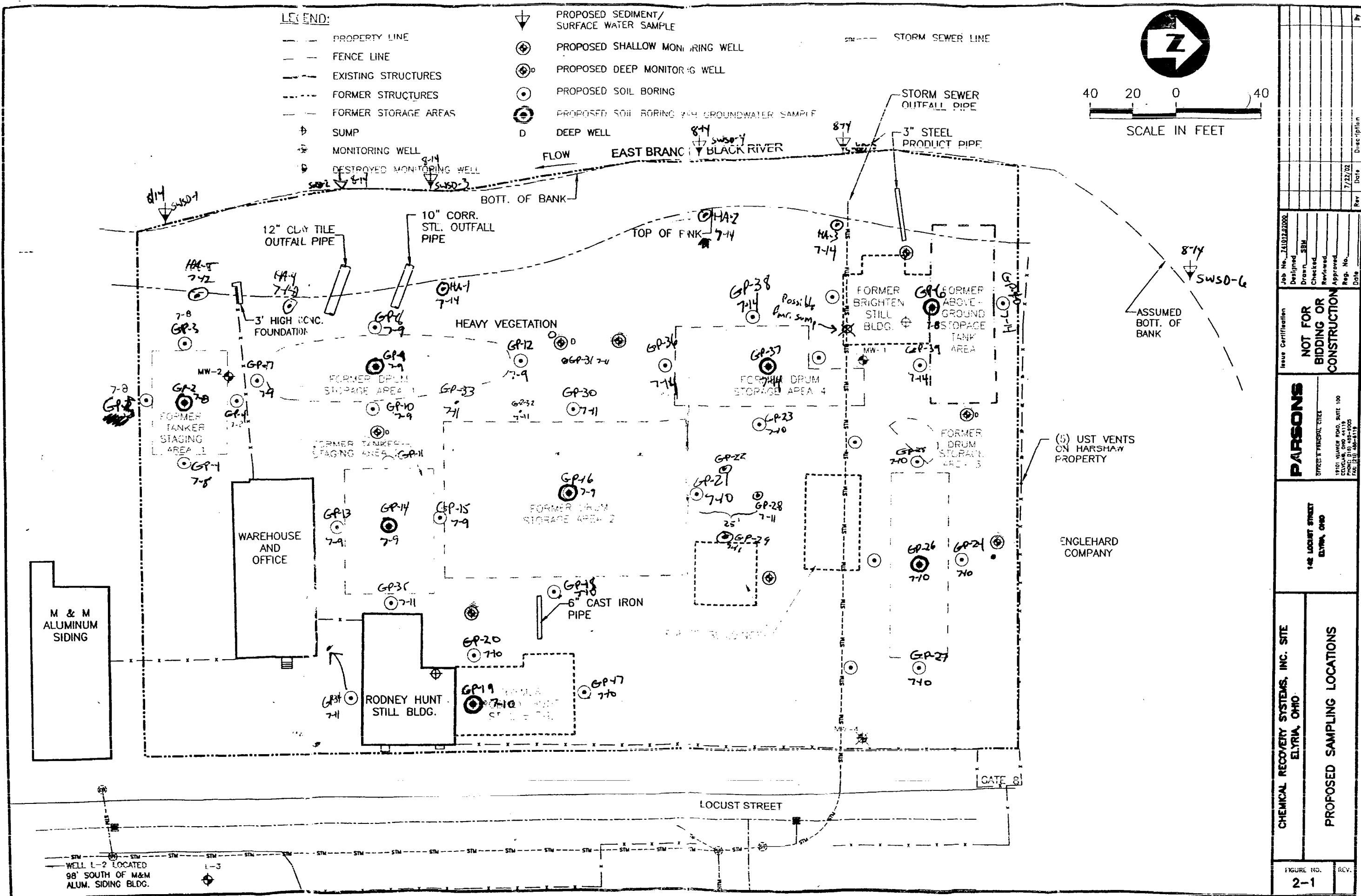
1800 Start sampling SWSO-6. M+E not observing due to difficulty of access & not having waders.

1943 Parsons returned from sampling at SWSO-6.

1855 Parsons collects rinse blanks.

1926 Rinse blanks finished. Parsons begins packing up. DMS (M+E) leaves site.

D. M. L. Jones 8-11-03





Rec'd  
Aug 12/03  
JSM

August 5, 2003

2800 Corporate Exchange Drive  
Suite 250  
Columbus, OH 43231-1665

Tel: 614-890-5501  
Fax: 614-890-7421  
www.m-e.com

Ms. Gwen Massenburg  
Remedial Project Manager  
U. S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**RE: Metcalf & Eddy, Inc. Field Oversight for the Period July 7 - August 6, 2003  
Chemical Recovery Systems Site, Elyria, Ohio**

Dear Ms. Massenburg:

Metcalf & Eddy, Inc. (M&E) was retained to provide oversight of the RI/FS field activities at the former Chemical Recovery Systems (CRS) site in Elyria, Ohio. Soil borings and temporary wells were installed at the site under the direction of Tammy Scurry, the Parsons Field Geologist.

A selection of photographs recorded by M&E is contained in Appendix A. The complete set of all site photos taken by M&E is filed electronically at M&E's Columbus, Ohio, office and can be provided upon request. Appendix B contains photocopies of M&E's site notes and the site drawing used in the field to keep track of activities.

**OVERSIGHT ACTIVITIES**

July 7, 2003

M&E's representative, D. Mark Jones, arrived at the site at 11:14 AM on July 7, 2003. Tammy Scurry of Parsons was on site. Personnel from Northcoast Drilling (Tim, Justin, and Ed) were also on site clearing debris with a bulldozer and installing test borings with a Bobcat-mounted Geoprobe® rig to test the suitability of the machine for use at the site. All test borings were first advanced by hand auger from the surface to five feet below ground surface (bgs). No sampling was scheduled for today.

While on site, M&E noted a great deal of debris presumed to be related to the site's use by the lessee, Mr. Muzick of M&M Aluminum Siding. Of greatest concern is stained soil where junk cars were stored and several empty motor oil bottles scattered about the site. According to Tammy Scurry, Mr. Muzick has apparently also sublet the site to a landscaping company, which has dumped a great deal of mulch, wood chippings, stumps and logs on the site, enough to completely bury the Areas of Concern at the northwest corner (Former Drum Storage Area 4, Former Brighton Still Building, and Former AST Tank Area). This is why the bulldozer was needed to clear these areas.

A reporter, Gene Krebs, from the *Elyria Chronicle-Telegram*, entered the site and inquired about the activities. M&E explained that a Remedial Investigation was underway and offered to answer questions but for safety reasons would not allow Mr. Krebs on site. Mr. Krebs stepped outside the fenceline to take photographs and left shortly thereafter. M&E monitored the newspaper the next several days for mention of the site, but nothing was noted.

A 4-inch-diameter open PVC pipe, resembling a well but of unknown age or purpose, was found in the ground in the southwest portion of the site, in Former Drum Storage Area (FDSA) 1. It appeared to be about 10 feet deep. Tammy Scurry said she noticed a similar one several yards away in Former Tanking Staging Area 1.

The bulldozer operator discovered MW-1 in the northwest portion of the site. This well had been reported as lost, but it appears to be in good condition and may be usable.

Field work ended after about four test borings. All test borings were dry and encountered weathered sandstone, presumed by Parsons to be bedrock, from about 6 feet bgs to 9 feet bgs. Tammy Scurry monitored the airspace above the bore holes with a PID and did not observe any elevated readings.

#### July 8, 2003

Work completed on this date included installation of soil borings GP-1 through GP-6, with temporary wells set in GP-2 and GP-6.

The drillers (Tim and Justin) set up a decon line of Liquinox in water, a tap water rinse, hydrochloric acid, a distilled water rinse, methanol, and a distilled water rinse. For the morning, the buckets were placed on a plastic sheet without any means of containing spillage, but by early afternoon a decon pad was constructed of hay bales and plastic sheeting.

Soil sampling began at Former Tanker Staging Area (FTSA) 1, outside the fenceline at the south end of the site. This portion of the site abuts the property of M&M Aluminum Siding and is in use by same for storage of their "inventory," mostly salvaged building materials. Five soil borings were advanced in this area, using the Bobcat-mounted Geoprobe® rig, and a temporary well was set in one. The borings typically encountered fill of various, mixed materials such as brick, slag, wood, and clayey silt which graded to fill of weathered sandstone. Refusal was usually encountered in weathered sandstone, either bedrock or fill. A 1-inch-diameter PVC temporary well was set in boring GP-2, at 9.5 feet bgs, with five feet of screen. This well was set with a pickup truck-mounted Geoprobe® rig due to issues with the types of tooling available to the probe operator.

Soil boring GP-6 was installed in the northwest portion of the site in the Former AST/Former Brighton Still Building Area. The drillers reported a strong chemical odor

at about 16 feet bgs. The headspace screening result of the 14' to 16' sample exceeded the PID meter's maximum reading of 2,000 ppm. The boring was terminated at 20 feet bgs, with the water table at about 14 feet bgs. A 1-inch-diameter PVC temporary well with a 10-foot screen was set in this boring. Insertion of the PVC was difficult, requiring hydraulic pushing by the Geoprobe® rig to get it to the bottom of the boring, prompting concern by M&E and Parsons that it could have broken during pushing. The probe operator suggested using a water level probe to confirm that the PVC was intact, but it is not known if this was done. The well was left with a 5-gallon bucket over it to prevent rainwater draining down the well bore until sand and bentonite could be added.

M&E observed today that the work surface used by Tammy Scurry, a plywood sheet placed on a 55-gallon drum, was not first prepared by covering with a plastic sheet as required. M&E also observed that an equipment blank was not collected for this day's work, as required by Parsons' Field Sampling Plan (FSP). Tammy Scurry explained that she was waiting to receive VOAs from the laboratory in which to collect the equipment blanks.

#### July 9, 2003

Work completed today included installation of soil borings GP-7 through GP-16, with temporary wells set in GP-9, GP-14, and GP-16.

Northcoast Drilling switched to a pickup truck-mounted Geoprobe® rig. Most borings encountered more of the typical mixed fill materials over weathered sandstone fill, similar to yesterday's borings. The Geoprobe® operator reported a strong odor in GP-16, which yielded the following headspace results:

Depth Interval, ft.	PID reading, ppm
0 - 2	553
2 - 4	812
4 - 6	609

No equipment blanks were collected today, even though required by Parsons' FSP.

#### July 10, 2003

Work completed on this date included installation of soil borings GP-17 through GP-27, with temporary wells set in GP-19 and GP-26.

Tammy Scurry stated that she expected VOAs to be delivered by the laboratory today, so that she would be able to collect daily equipment blank samples.

The following are some headspace results noted during sampling:

Boring Number	Depth Interval, ft.	PID Reading, ppm
GP-22	0 - 4	> 2000
GP-22	4 - 8	264
GP-25	0 - 2	245
GP-25	2 - 4	240
GP-25	4 - 6	0
GP-25	6 - 7.5	0

July 11, 2003

Work completed today included installation of soil borings GP-28 through GP-35.

Tammy Scurry said that, with M&E's help, she wanted to survey in the location of the storm sewer, to place soil borings in the vicinity of the storm sewer as close to it as possible without striking it. However, it was not clear from the drawings exactly where the storm sewer enters the site, so Parsons decided to put these borings on hold until the exact location of the storm sewer can be determined, with the help of the City of Elyria, if possible.

M&E discovered an opening in concrete in the area of the Former Brighton Still Building. Tammy Scurry said that it might be the sump associated with this building, which had never before been located. It is a round, manhole-sized opening, without a grate or lid, cast in concrete (possibly the floor of the former building), and filled in with debris such as soil, cinder block fragments, and trash. It is in line with the apparent trace of the storm sewer line.

A strong, turpentine-like odor was noted in GP-30. Headspace readings from GP-30 were:

Depth Interval, ft.	PID reading, ppm
0 - 4	441
4 - 6	219
6 - 8	303
8 - 12	243

Due to this evidence of soil impact, extra borings were placed in this AOC (FDSA 2). Headspace readings from GP-31 were:

Depth Interval, ft.	PID reading, ppm
0 - 4	8.5
4 - 8	8.1

During soil sampling in FDSA 2, a concrete pumping truck was observed parking outside the fence on Locust Street. The driver began cleaning his truck, dumping 2 or 3 cubic yards of wet concrete on the ground in the process. Because the area affected appeared to include the site property, M&E called the Elyria police to report illegal dumping. The police arrived and questioned the driver, who said he was contracted to Englehard and was told by them to dump his extra concrete there. While the police were explaining this to M&E, maintenance personnel from Englehard appeared. M&E explained to Englehard that it was expected that the concrete on CRS property would be cleaned up. Englehard said they had dumped material there in the past, but had always cleaned it up. By 1:00 PM, Englehard had dispatched someone to pick up the wet concrete.

July 14, 2003

Work completed today included the installation of hand auger borings HA-1 through HA-5, Shelby tubes ST-1 and ST-2, and soil borings GP-36 through GP-40. A temporary well was set in GP-37.

Tammy Scurry said that Parsons had decided not to complete any soil borings in the vicinity of the sewer line until the line had been inspected by closed-circuit television. This meant putting off five of the proposed soil borings for the time being.

Parsons installed five hand auger borings in the wooded area along the top of the riverbank. The hand auger borings penetrated the topsoil only and were sampled for VOCs, SVOCs, PCBs, and metals.

Parsons collected two Shelby tube samples in the vicinity of FDSA 3 by hand augering through the surface gravel into the sandy/clayey fill zone, and pushing the Shelby tube using the truck-mounted Geoprobe® rig. ST-3 was begun near the Rodney Hunt building, but the hand auger could not get past a gravel zone, so it was abandoned per Peter Gelman (by telephone), and will be re-attempted later with a drill rig.

Parsons installed soil borings GP-36 through GP-40 in the northwest portion of the site. Strong odors were noted in GP-39, and the following headspace readings were obtained there:

Depth Interval, ft.	PID Reading, ppm
0 - 4	> 2000
4 - 8	338
8 - 11.5	122

M&E asked Tammy Scurry if she intended to do any extra borings in the vicinity of GP-39. She replied that extra borings would be done only if staining were seen. However, Section 3.4.1 of Parsons' Field Sampling Plan (last paragraph on Page 18 of



Ms. Gwen Massenburg  
August 5, 2003  
Page 6

32) states that the "overt signs of impact" triggering extra borings would be "staining, odors, etc." According to this practice, an extra boring or borings should have been performed to further define the area of impact.

A temporary well was set in GP-37. The other temporary wells which had already been set today were supplied with fine sand and granular bentonite.

Tammy Scurry said that this completed this first phase of the field work, except for sampling of the temporary wells, which would occur some time the following week. She said she would return to the site on Tuesday morning, July 15, to admit the drillers so they could retrieve their equipment, but she anticipated no other field work for this week.


July 28, 2003

Mark Jones called Tammy Scurry at the Parsons office in Cleveland. She said that Parsons expected to return to CRS to sample the temporary wells on August 12, for three days of work. She did not know when work on the monitoring wells would begin, and said that further contact should be with Rick Vulpe, as she would be out of town working other jobs.

If you have any further questions concerning M&E's observations during this oversight activity, please contact me at (614) 890-5501.

Sincerely,

METCALF & EDDY, INC.

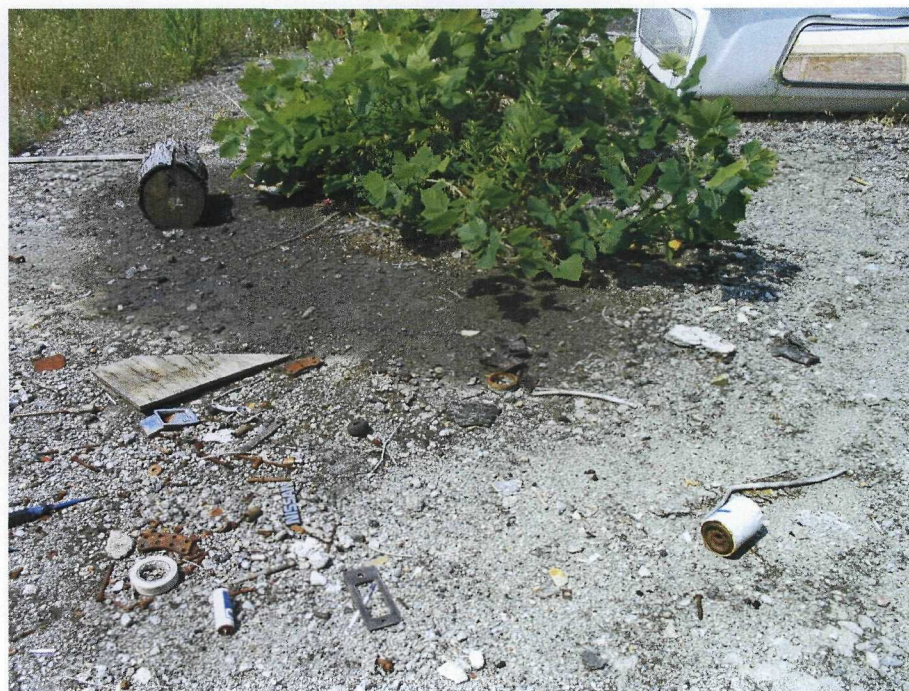
  
Barry Nelson (up)  
Project Manager

Attachments:      Appendix A: Photographic Log  
                         Appendix B: Copies of M&E Field Logbook and site plan

**APPENDIX A**  
**PHOTOGRAPHIC LOG**



1. July 7, 2003: Above-ground storage tank area following clearing by bulldozer.



2. July 7, 2003: Typical stained soil and debris.





3. July 7, 2003: One of two PVC pipes of unknown age or purpose in southwest portion of site.

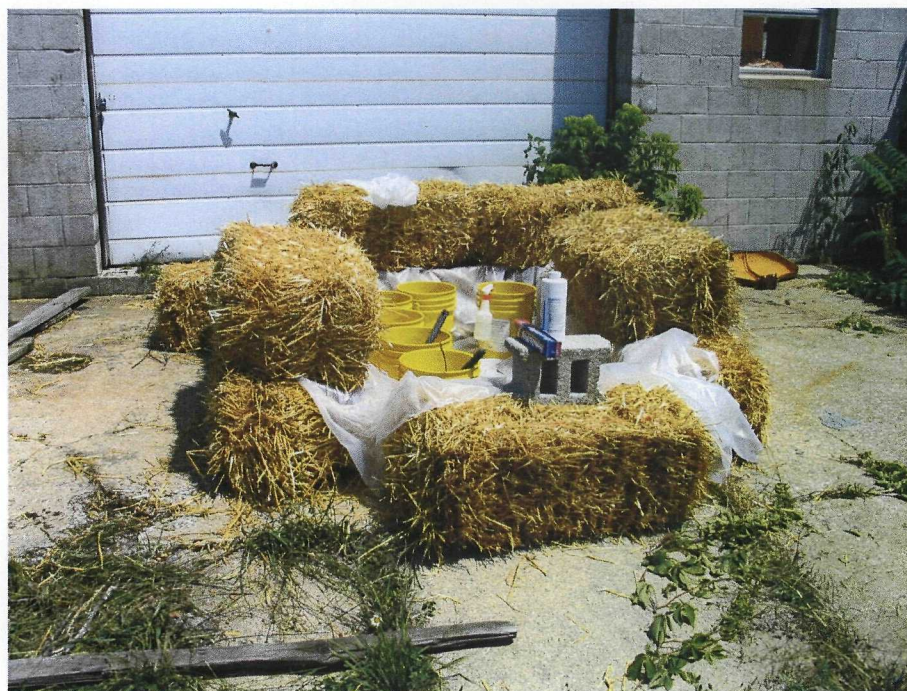


4. July 7, 2003: MW-1, rediscovered near the former above-ground storage tank area..





5. July 8, 2003: Decontamination line.



6. July 8, 2003: Decontamination line following completion.





7. July 8, 2003: Sample from soil boring GP-2, 0' - 4', containing typical fill material of sand, gravel, and brick material.



8. July 8, 2003: Sample from soil boring GP-6, 4' - 8' (at top): Mixed fill of concrete fragments, cinders, etc.





9. July 8, 2003: Temporary 1-inch well during installation in GP-6.



10. July 9, 2003: 1' – 4' sample from soil boring GP-10. Black slag grading to brown clayey silt, all fill.





11. July 9, 2003: 0' – 4' sample from soil boring GP-11: Black, slag-like material grading to brown clayey silt, all fill.



12. July 9, 2003: 0' – 4' sample from soil boring GP-12: Mixed fill of clay, slag, and sandstone grading to brown clayey silt.





13. July 9, 2003: 0' – 4' sample from soil boring GP-16: Fill of gravel and clay, dry to moist, with a thin seam of pulpy material resembling paper pulp. Probe operator reports a strong odor.



14. July 10, 2003: 0' – 4' sample from soil boring GP-21: Mixed fill of coal, black sand, grading to brown sand.





15. July 10, 2003: 4' – 6' sample from soil boring GP-21: Moist brown sand with black staining from ~4.8' – 5.0', becoming gray sand and clay. No odor.

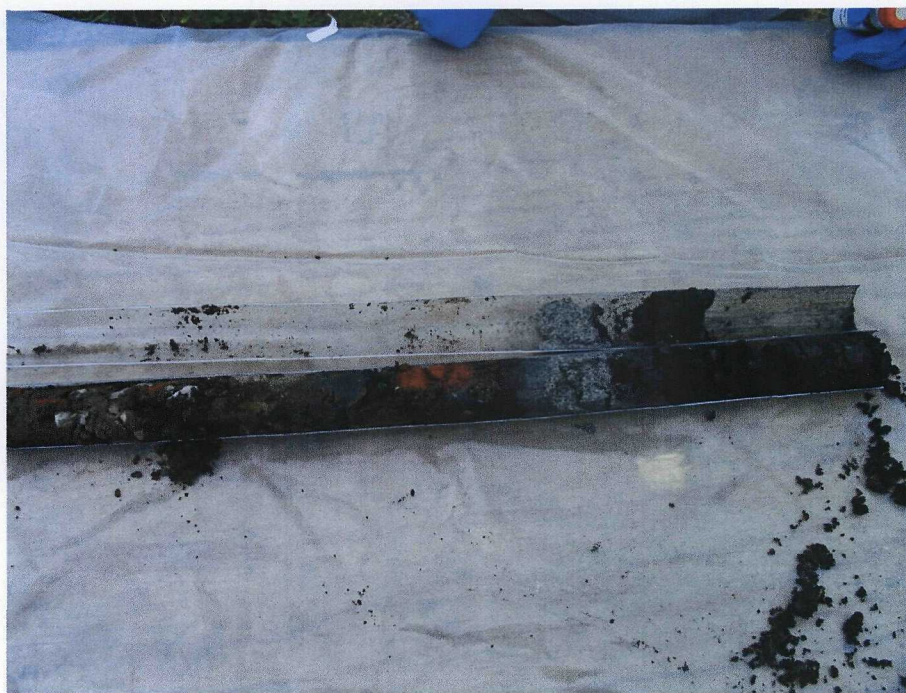


16. July 10, 2003: 0' – 4' sample from soil boring GP-22: Sand and clay with coal fragments. Had a strong, bituminous odor that dissipated quickly after opening liner. Headspace of jarred sample read at >2,000 ppm.





17. July 11, 2003: Round opening in concrete in northwest portion of site, believed to be sump of the former Rodney Hunt Still Building.



18. July 11, 2003: 0' – 4' sample from soil boring GP-30: Mixed fill of brick, slag, and foundry sand. Turpentine-like odor near bottom.





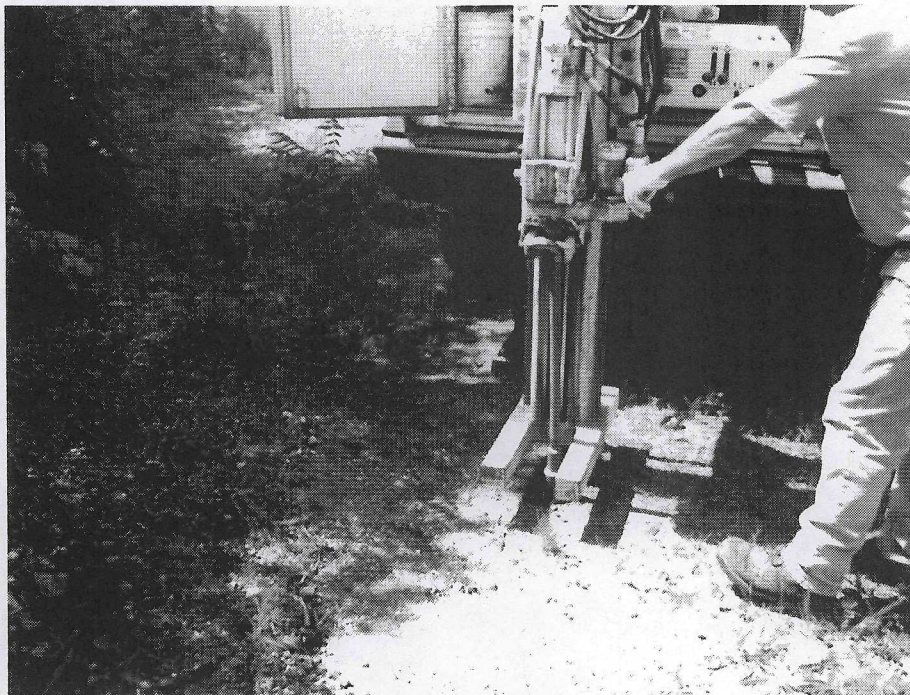
19. July 11, 2003: Concrete dumped at Engelhard's order on CRS site property facing Locust Street.



20. July 14, 2003: Pushing Shelby tube ST-1.

Chemical Recovery Systems Site





21. July 14, 2003: Pushing Shelby tube ST-2.



22. July 14, 2003: Temporary well during setting in GP-37.

Chemical Recovery Systems Site



## **APPENDIX B**

### **COPIES OF M&E FIELD LOGBOOK AND SITE PLAN**

7-7-03 Chemical Recovery Systems, Elyria, OH

0840 DMJ-leave home (Delaware OH) for job site.

1114 DMJ arrives at site meets Tammy of Parsons. Drillers on site. Brush clearing is underway. They are using Geoprobe to do test bores to see whether it can penetrate - no sampling today. Geoprobe got down to 11' at ~~the~~ N end of site (sandstone? - 9' ~~fill~~). No hits on PID from boring. Site has a great deal of ass't: debris: skids, phone poles, RR tracks, stumps. Area of fur. Brighton Still Bldg + AST farm has been buried under several feet of mulch + wood chippings + needs to be cleared for access.

\* Sample coolers on plastic sheet.

1136 \* Geoprobe being used for test boring.

\* Screening test boring w/PID. 48.5 ppm w/benzene odor at 4 feet. Black + gray sand + clay fill.

1140 16.2 ppm measured from boring. Sandstone encountered at ~6'.

1140 Fred arrives, drillers' boss (North Carolina drilling).

\* Debris. Note oil filter + stained soil.

\* Dozer-cleared debris at N end of site <sup>looking SW</sup>

\* Dozer-cleared debris, looking NW

\* Dozer-cleared area above riverbank at N end of site, looking west

1220 Gene Krebs of Elyria Chronicle-Telegraph arrived w/camera to ask questions. Someone had seen equipment at site and called the newspaper. I explained that an RI was underway. I ~~at~~ would not allow him to walk site and told him he would have to take pictures from outside fence.

1226 Geoprobe operator begins 3<sup>rd</sup> test boring. Tammy orders drillers to stop work while photographer is taking pictures. Drillers: Tim - Probe operator  
Justin - helper  
Ed - on dozers

\* Drums outside Rodney Hunt still bldg.

1235 \* 3<sup>rd</sup> test boring being done. Encountered refusal on concrete at a few inches. Drillers hand auger to five feet.



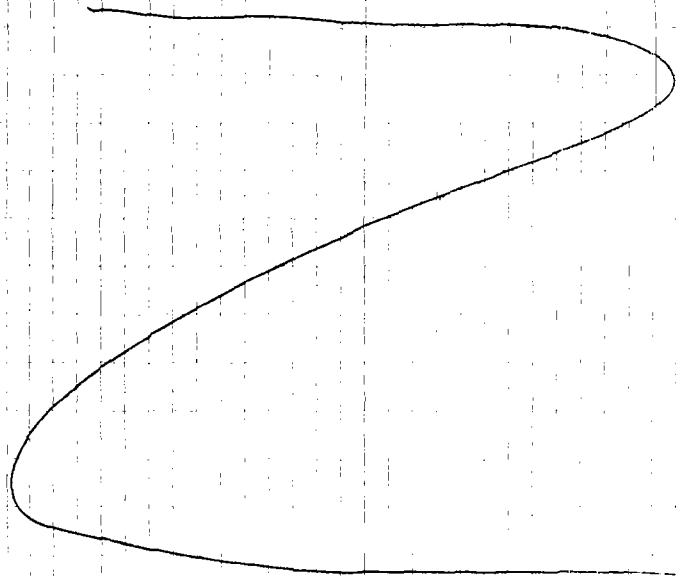
4

- 1245 Weather: Hot, hazy, p. sunny, humid, S. wind.
- 1246 Resume using probe to advance test boring after hand augering to 5 feet.  
0.0 ppm PID reading. Weathered SS at 8'.
- 1251 0.0 ppm at 10'. Refusal on SS.
- 1254 There are a lot of empty motor oil 1-qt. bottles strewn about site, and areas of stained soil, possibly car leaks.
- 1258 Mr. Muzick who has been leasing site to store cars, arrives.
- \* Dozer-cleared area where cars had been stored. This area (SW area of site) had been cleared prior to today's ~~Dozer~~ by site lessor. Dozer just pushed debris to top of bank, looking SW.
- 1301 Geoprobe begins another test boring.
- 1303 Mr. Muzick leaves. (He is owner of metal recycling business next door).
- \* PVC well (?) in SW area of site. Measured w/tape at 10' deep. 4" diameter.
- 1309 Test boring in SW area of site

5

encountered sandstone at 7.5'. 2.6 ppm.

- \* Drum + junk mat'l stored outside Warehouse building at S end of site.
- 1313 Tammy had drivers check for water in test borings.
- \* Existing well at northern part of site (MWH)
  - \* AST farm area below dozer clearing, looking E
  - \* Same, another angle, looking S.
- 1318 Tim reports all test borings were all dry and had not caved.
- 1346 All leave site for the day.



6

7-8-03 CRS SITE

Warm, partly sunny/hazy, wind calm

- 0809 DMT arrives at site. Tammy already there, drillers not yet arrived.
- 0812 Tim arrives, ~~GP-1~~ Geoprobe begins setting up while Tammy prepares for soil sampling.
- 0900 Tammy is setting up Deion line:  
6 buckets: Liquinox, tap water rinse, HCl, Distilled water rinse, methanol, distilled water rinse.
- 9:00 Deion line
- 0905 Tim begins decanning rods.
- 0921 Justin arrives
- 0950 Start hand-augering 7<sup>th</sup> boring (GP-1, refusal on wood. in Former Tanking Staging Area 1).
- 1000 Begin boring w/ Bobcat-mounted Geo-probe. Refusal on wood. Tammy has operator offset ~3' SE. Refusal again, apparently on railroad track. Operator offsets again.
- 1016 Successful 0'-4' sample. Orange, brn & blk sand and clayey silt fill with coal fragments + cobbles. Moist. Tammy samples 0'-2' + 2'-4' intervals.

BORINGS GP-1, GP-2

7

1025 Geoprobe refusal at 7.5'. Brn + orange sand and clayey silt, grading to sand (weathered bedrock).

\* 4.0'-7.5' sample

Tammy collects samples here.

PID screening

SVOCs, PCBs, metals (2 4oz jars)

VOCs by 5035 (40-ml bottles)

1040 Rick Volpe (Parsons) arrives

PID results

0-2: 0.0 ppm

2-4: "

4-6: "

6-8: "

\* Pic of another 4" PVC open well, near GP-1, damaged.

1059 Begin GP-2. 0'-2' sample is largely brick fill. Operator offsets + tries again. Same result.

\* GP-2 0'-4' sample. Moist gray sand + coarse gravel, grading to var. blk sand, grading to red brick fill.

1125 Opening 4'-8' sample. Brick fill becoming concrete fill, w/ wood fragment at bottom.

1131 Geoprobe refusal at 9.5'. Weathered sandstone at bottom of sampler.

This boring, GP-2, needs to have a temporary well set, but Tim (operator) does not have the equipment to set a 1" well in the fill material (he needs a pole cap for the dual-tube rods).

1145 Tim begins setting the truck-mounted Geoprobe up on GP-2 (in place of the Bobcat-mounted Geoprobe) in an attempt to set a temporary well.

1206 Tim begins driving dual-tube rods in GP-2.

1245 Finished setting temporary well.

1256 Begin GP-3. Fred of Parsons arrives.

\* GP-3 0'-4' sample

Concrete fill, grading to firm lt brn silty clay. Becoming dk brn to blk sand + gravel with woody debris at 3.6'.

1305 Refusal at 5.0' on concrete.

1315 Fred + Tim leave for lunch.

Rich. of Parsons leaves.

1350 Fred + Tim return from lunch with hay bales for decan pad.

1355 Begin building decan pad.

1433 Begin probing at GP-4.

\* 0'-4' sample at GP-4. Mixed fill of <sup>boulders</sup> concrete & brick.

\* Completed decan pad.

1442 Refusal of GP-4 on clay-like material.

1435 Justin returns.

1453 Fred leaves.

1502 Begin GP-5

\* GP-5 0'-4' sample. Firm brn clayey silt, moist to wet.

1512 4'-8' (Stopped just short of 7') drive

\* 4'-8' sample. Loose, moist sand grading to weathered sandstone. End of refusal at ~7.0'.

This completes soil borings in this area (Tanker Staging Area 1).

1515 Drillers (Tim + Justin) begin moving out of this area. Backfill boring with bentonite chips.

1600 Begin hand augering at GP-6.

1608 \* GP-6 0'-4' Drive (usually only 3'-4' recovered) Loose gray sand + concrete cobbles, glass fragments.

1612 \* 4'-8' Drive (top of picture)

Mixed fill mat'l (sand + gravel-sized concrete fragments, slag, etc.)

Mat'l has been very soft; Geoprobe requires very little hammering to penetrate.



10

## GP-6 TEMPORARY WELL

11618 \* 8'-12' Drive. Similar to above.

11625 Drillers report strong chemical odor at 16'

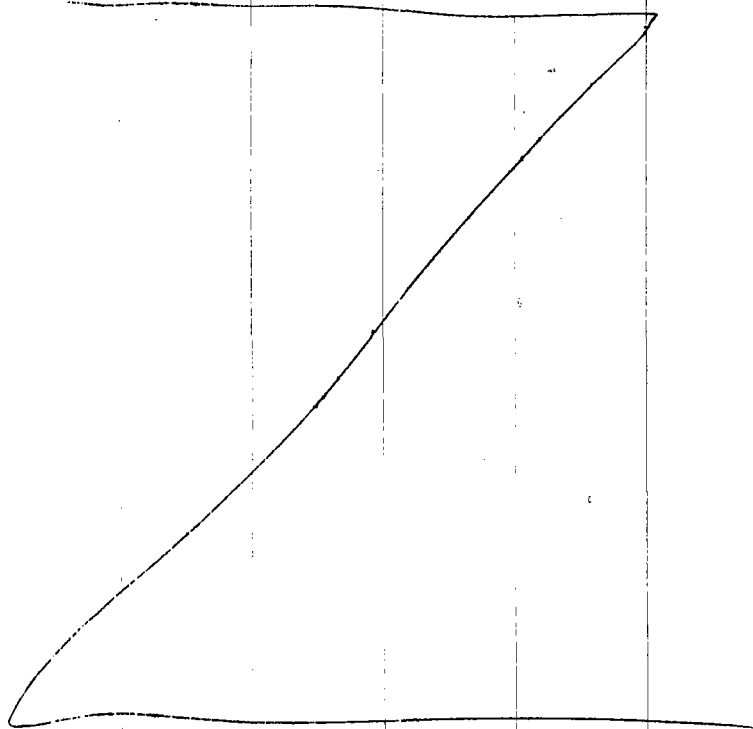
\* 12'-16' Drive (on left) Similar material, has paint-like odor where wet.

11638 \* 16'-20' Drive. Driller reports it is near refusal. No samples taken because it is wet. 14'-16' sample reads 2000 ppm + <sup>on</sup> meter.

11645 Temporary well set. 10' screen.

\* Temporary well after setting.

11715 DMS leaves site.



11

7-19-03 CRS Site

Warm, cloudy, rain forecast for AM

0814 DMS arrives at site. Tammy, Jerry & Tim & Justin (drillers) already on-site. Drillers are de-canning & setting up.

0921 Drillers begin hand augering at GP-7, in Drum Stn. Area 1.

0933 \* 0'-4' interval at GP-7. Mixed fill materials: sand & gravel, silt, clay, concrete.

0935 \* 4'-7.75' interval; refusal on sandstone. (top of photo) Fill material grading to sand at ~6.0, grading to weathered sandstone.

1006 Begin setting up on GP-8, same Area of Concern. Hand augered to 3'.

1007 Rick (NorthEast Drilling owner) arrives. Light rain begins. STL carrier arrives & leaves.

1021 Run becoming heavier. 3'-8' interval. Fill to ~7' becoming sandstone (was pushed 5' in error).

1119 Begin GP-9.

\* GP-9 0-4

1129 Begin setting temporary well at 70' in GP-4.

1140 Drillers break for lunch.

12

BORINGS GP-10, GP-11, GP-12

- 1229 Drillers return from lunch.  
 1243 \* 1'-4' sample, GP-10. Black clay-like mat'l grading to brn clayey silt.  
 1248 \* 4'-8' sample, GP-10. Brn clayey silt grading to brn sand, grading to weathered bedrock.  
 1253 Begin hand augering GP-11. (Tanker Staging Area 2).  
 1259 Tummy Scurry leaves home site to get more DI water.  
 1314 TS returns with DI water.  
 1320 Begin Goprobing GP-11.  
 1323 \* 0'-4' sample at GP-11. Black, clay-like fill mat'l grading to brn clayey silt.  
 1330 \* 4'-8' drive at GP-11. Brn clayey silt and sand, grading to weathered bedrock. Sandstone at bottom has slight odor (solvent-like?).  
 1344 Begin setting up on GP-12. (FDS Area 1)  
 1402 \* 0'-4' drive at GP-12. Mixed clay, clay & stone fill grading to brown clayey silt.  
 1408 4'-8' drive. Brown clayey silt grading to weathered sandstone.

BORINGS GP-13, GP-14, GP-15

13

- 1431 Set up on GP-13.  
 1433 Brian ~~GP-13~~ (Northeast) arrives to help.  
 1438 After hand-augering GP-13, TS has driller offset -6' to avoid suspected water line.  
 1442 \* 0'-4' drive from GP-13. Mixed clay fill and ~~stone~~ stone.  
 1448 \* 4'-8' sample. Brn. clay silt grading to weathered sandstone, wet. Brian leaves.  
 1453 GP-13 encounters refusal at 9'.  
 1501 Set up on GP-14.  
 1506 \* 0'-4' drive from GP-14. Sandstone fill grading to brn silty clay.  
 1510 4'-8' drive comes out. ~~Brn~~ Brn clayey silt grading to and clayey silt.  
 1515 GP-14 encounters refusal at 10'. Drillers set temporary well with 5' screen.  
 \* Temporary well in GP-14.  
 1532 Set up on GP-15.  
 1546 \* 0'-4' drive from GP-15. Mixed fill of brick, clay, sludge. Dry.  
 1550 4'-8' sample ~~has~~ is similar material, has solvent-like odor.  
 1555 Driller reports 8'-12' sample drive advanced very easily (possible void) and has a

BORINGS GP-16, GP-16 TEMP WELL

14

strong odor. About 1 foot of mixed fill material recovered.

1601 12'-16' is wet, has very strong odor. More fill material. Refusal at 15.5'

1604 Begin GP-16. (former Drum Storage Area 2).

1608 0'-4' sample from GP-16. Driller reports strong odor. ~~Gravel~~ Gravel & clay fill, gray, blk & brn. Dry to moist. Contains a thin seam (~1.5') of pulpy material resembling paper mill pulp.

1631 4'-8' drive: gray, moist clayey silt fill w/pockets of blk material.

1647 8'-12' drive: same dry mixed fill material.

1654 12'-16' drive: same, wet at about 15', possible sheen.

NOTE: Method 5035 uses 2 VOA's preserved w/methanol & 2 preserved w/sodium bisulfite.

1659 16'-18' drive: Fine blk sand, wet, has odor.

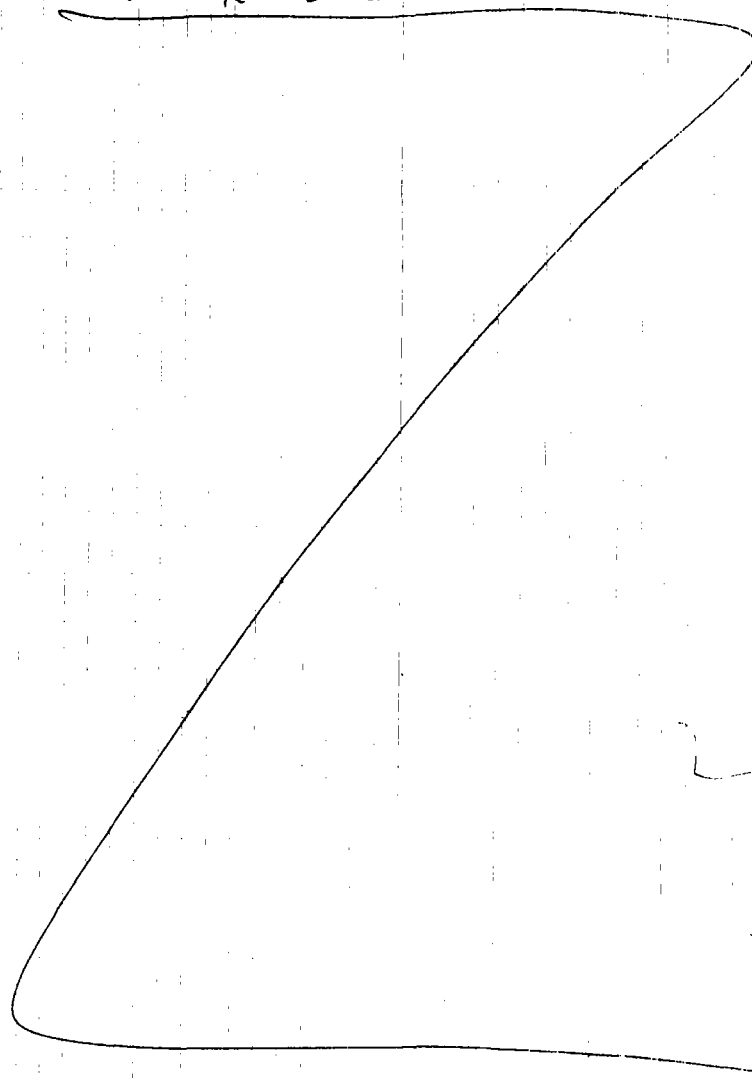
1701 Begin setting temporary well.

GP-16 PID Readings

0'-4'	81.9 ppm	6-8	553 ppm
2-4'	564 "	8-12	82 "
4-6	960 "	12-13	609 "

15

1730 Finished setting temporary well.  
1735 DMS leaves site





7-10-03

Warm, cloudy, light breeze, rain + storms  
frequent

0807 DMT arrives at site. Tammy, Scurry  
(Prisms), Tim + <sup>Bob</sup> ~~John~~ (already on site). Set  
thing up.

0830 Tammy S. leaves to get more ice + 8 I  
water.

0900 Tammy returns w/ice + 8 I water.

NOTE: The Field Sampling Plan calls for (4.4.2)  
daily equipment blanks, but thus far, none  
have been taken. The requirement is for  
VOCs. Tammy says it is because she  
does not have any ~~blanks~~ in which to  
take them. She expects some to be  
delivered by the lab today.

Today's Elyria paper still has no mention  
of CES site.

0935 Drillers begin setting up on GP-17.

0940 DMT leaves site

1115 DMT returns to site.

Tammy + the drillers are taking rinse  
blank samples.

GP-17 has been completed. And GP-18

GP-19 has been started. Some trees  
had to be cut down.

GP-19, GP-20

GP-17 + GP-18, Tammy reports, had no  
PID readings + were full material, with  
refusal encountered quickly.

1128: 0'-4' drive at GP-19: Mixed fill of slag,  
brick, wood, clay.

1132 Refusal at 5.5' on weathered sandstones  
Bm silty clay above that.

1153 Drillers have moved to location of GP-20  
and they have backfilled GP-19. I pointed  
out to Tammy that the plan calls for  
a temporary well at GP-19, even though  
it was dry. She says she will have  
the drillers redrill it and set a temp.  
well.

1155 Drillers are setting up on GP-20.

1202 0'-4' drive from GP-20. Mixed slag +  
stone fill, dry. Raining. Starting.

1214 Drillers break for lunch.

1300 Drillers return from lunch.

1317 Drillers redrill GP-19 ~6" N of original  
location and set a temporary well at  
~5'. (Just a screen, no riser).

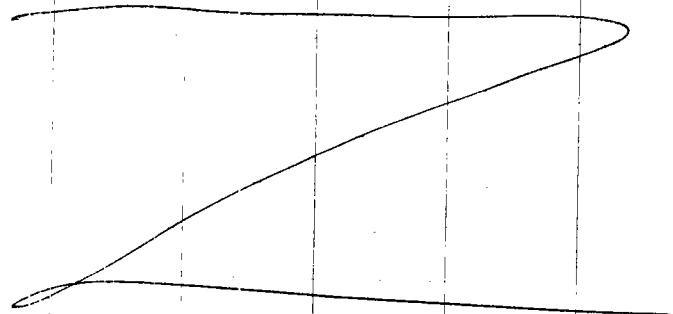
\* Temporary well in GP-19.

The grand in this AOC (Fair Rodney  
Hunt Still Bldg) is marked by

- several depressions open voids, and lengths of buried pipe (6" and 1" diameter)
- 1324 Drillers set up on GP-21.
- 1330 ~~0~~-4' sample. Mixed fill of ~~stone~~ coal fragments & black sand, grading to brn sand (weathered sandstone)
- 1336 ~~0~~-4'-6' sample. Moist sand, brown, with blk staining from ~4.8'-5.0', no odor, bec. gray sand, some clay.  
Tammy has driller stop back 10' NE to define extent.
- 1354 Tammy reports all PID readings from GP-21 were 0 ppm. Set up on GP-22.
- 1357 ~~0~~-4' sample: Black + brn sand & clay, has coal fragments & strong odor that dissipated soon after coming up on line (bituminous odor). PID is 2000 ppm
- 1401 4'-6' sample (s moist sand, brn, becoming black, becoming gray, similar to 4'-6' sample from GP-21, above. PID is 264 ppm.
- 1429 Drillers set up on GP-23. Hand augering encounters concrete slab at about 2'-3'.  
Switch to gasprobe.
- 1435 ~~0~~-4' sample from GP-23. Mixed fill, similar to previous 2 borings, black bec.

- brown at ~2.5'.
- 1438 Gasprobe encounters refusal at ~6.75 feet.
- 1444 ~~4~~ Brown sand becoming mottled gray + black.
- 1504 Drillers begin setting up on GP-24.  
(Four Drum Storage Area 3).
- 1513 0'-4' sample from GP-24. Blk coal fill grading to brown sand (weathered SS fill).
- 1516 Rick Volpe (Param) <sup>with</sup> ~~normal~~ Matt Owens (Param)
- 1519 4'-6' sample. Brown sand & sandstone cobbles.  
Refusal at 6.0'
- 1548 Driller set up on GP-25.
- 1554 0'-4' at GP-25: Mixed fill: slag + coal mat'l grading to weathered sandstone. Dry.
- 1601 4'-7.5' at GP-25: Weathered sandstone and sand, dry.
- 1606 Drillers set up on GP-26.
- 1612 GP-25 PID Screening Results
- |        |         |
|--------|---------|
| 0'-2'  | 245 ppm |
| 2-4'   | 240 "   |
| 4-6'   | 0 "     |
| 6-7.5' | 0 "     |
- 1618 Begin GP-26.
- 1621 0'-4' sample: Sandstone and coal fill, dry.
- 1634 GP-26 goes to 8.0'

- 1635 Drillers set up on GP-27. They have installed a temporary well in GP-26.
- 1646 First 2 attempts at GP-27 have encountered refusal at ~3'. Appears to be concrete.
- 1653 \* Temporary well in GP-26.  
Tammy says today's rinse blank must be re-done because STL told her the way they ~~the~~ instructed her to do it was wrong (should have used HCl preservative, not methanol + sodium bisulfite).
- 1656 0'-4' Drive in GP-27: Mixed fill of slag, coal, + sandstone. Dry to moist.
- 1703 4'-5' Drive: Gray sand + weathered sandstone, wet.
- 1708 ~~DMJ leaves~~ Drillers begin to clean and prepare to shut down for the day.
- 1730 DMJ leaves site.



7-11-03

Weather: mild, breezy, mostly cloudy.

0808 DMJ arrives at site.

DMJ + TS attempt to locate storm sewer in order to place 3 borings in vicinity of FDSA 3 without striking sewer. TS calls Rick Volpe to get him to contact surveyors. TS plans to install borings near Rodney Hunt Bldg and to try to better define staining found yesterday in vicinity of FDSA 2, until further info is found on loc. of sewer.

0901 There is a round opening in concrete in the area of the Fair Brigham Still Bldg. that may be the former sump. It is approximately in line with the storm sewer and outfall, about 2' wide and has been filled in with under block fragments and trash.

\* Picture of possible former sump.

0912 Drillers set up on GP-28, in FDSA 2 area.

0917 0'-4' sample at GP-28: Mixed gray + blk fill to ~3, bec. brn + orange sandstone fill.

0921 4'-6' Orange bec. brn ss fill, moist to wet. No refusal at 6'.



- 0935 Rick (Northwest) arrives, discusses how/when final borings in NW area of site will be installed.
- 0943 Drillers set up on GP-29.
- 0947 0'-4' sample from GP-29: Blk + gray coal/slag fill bec. brn + or. weathered ss fill, dry to moist.
- 0954 4'-6.5' sample: Brn + or. weathered ss fill, some weathered to sand + silt, moist, refusal at 6.5', bec. gray near bottom.
- 1009 Rinse blank collected.
- 1010 STL courier arrives, drops off coolers/picks up coolers w/samples.
- 1015 Set up on GP-30.
- 1027 \* 0'-4' sample from GP-30. Mixed fill of brick, slag, foundry sand. Strong ~~bitumens~~ odors, turpentine-like from bottom-most part.
- 1030 4'-8' sample mixed blk + gray fill of slag and shale, seepage at ~7.5 in in silty clay horizon.
- 1034 8'-12' sample: blk, gray + brn fill of sand + shale fragments, moist, slightly sweet turpentine-like odor.
- 1041 \* 12'-15.5' sample: wet with sheen: black sand, saturated, faint bitumens odor. Refusal

at 15.5'

PID readings, GP-30:

0'-4'	441	ppm
4'-6'	219	ppm
6'-8'	303	ppm
8'-12'	243	ppm

1059 Step back & set up on GP-31.

- 1108 4'-8' sample from GP-31: Brn + or. weathered fill, damp. (0'-4' was typical fill mat'l).
- 1111 Refusal at 9'. Orange weathered sandstone.

PID readings

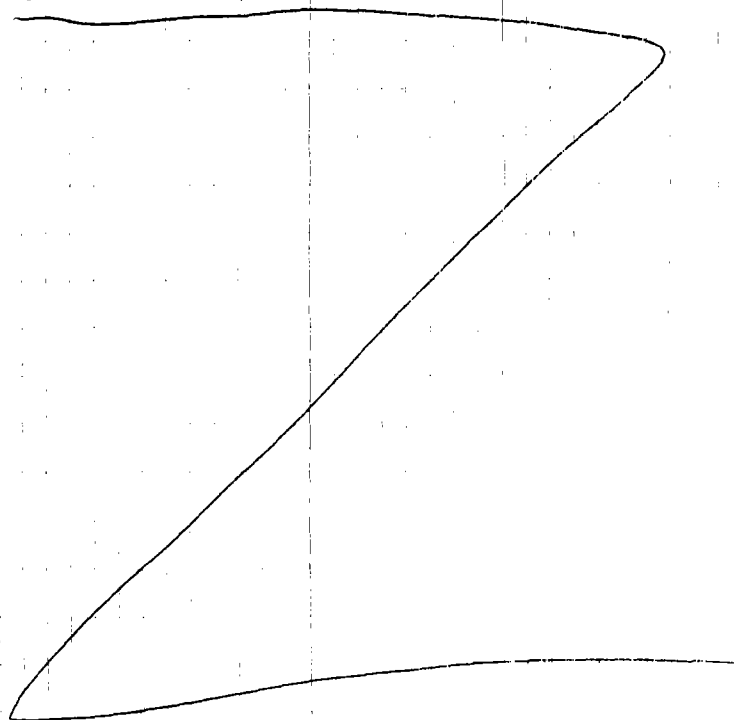
0'-4'	8.5	ppm
4'-8'	8.1	ppm

1131 Drillers set up on GP-32.

- 1135 0'-4' sample from GP-32: Topsoil (Brn silty clay) grading to blk fill (coal/slag) grading to or + brn ss fill, dry to moist.
- 1139 4'-8' sample: Brn + or weathered ss fill, moist.
- 1143 8'-12' sample: Brn + or weathered ss fill, moist.
- 1145 A concrete pumping truck pulls up outside fence on Locust St, ~~500~~ Driver begins cleaning truck, dumping ~2 yds of fresh concrete in r-o-w, on shoulder. I photographed this activity & phoned Elvira police.

- TS reports GP-32 became oily + black around 15'.
- 1212 0'-4' at GP-33: Black fill + firebrick in ss fill.
- Elgin police came. Cement truck driver was doing work for Englehard, says he was told by them to dump there. Englehard personnel say they will clean the concrete up later. It is actually <sup>probably</sup> within the property line, according to the police.
- Addendum: a check of the survey drawing shows it is outside the PL which is the fence.
- 1210 GP-33 encountered refusal at 4.0' drillers offer 2' and re-started ~~GP-33~~
- 0'-4': Black fill over orange ss fill.
- 1210 4'-8': brn ss fill, moist.
- 1215 8'-9' same, refusal.
- 1247 Begin setting up on GP-34.
- 1254 0'-4' sample from GP-34: Black fill, becoming brn ss fill ~3.8', dry
- 1258 4'-8': Orange weathered ss fill, dry + slightly moist
- 313 Refusal at 8.5': Wet sand black.

- 1332 Drillers set up on GP-35.
- 1336 0'-4' sample from GP-35: concrete base, and orange ss. fill, dry
- 1340 4'-8' sample: brn sand + weathered sandstone damp, slight indeterminate odor.
- 1344 8'-9' Brn weathered ss fill w/ some bit specks and a bitumen odor. Refusal at 9'.
- 1350 Drillers + TS begin cleaning up to leave.
- 1400 DMS leaves site, returns home to Delaware, Ohio



7-14-03

0640 DMS leaves home for CRS site

0801 DMS arrives at site. Drillers are (Tim + Mike)

setting up. So is Tammy.

TS says she will not install the four SBs near the storm sewer line until after it has been televised, per Peter Gelman. Instead, she will install the 6 remaining SBs, and take some hand auger borings along the bank. She will also attempt some Shelby tube samples.

-She asks if I know whether Gwan Massenburg is aware that project is ahead of schedule, and if she is still planning to visit tomorrow. I left a message w/Barry Nelson to find out.

0854 TS orders drillers to put sand + benzol in all temporary wells. Sand to 3 feet, the remainder Benzol.

0905 Drillers only have fine sand, will have to get more.

0915 Begin hand auger borings above overbank (HA series) boring HA1

0930 Complete HA-2.

0950 Complete HA-3.

HA-4, HA-5, ST-1, ST-2, ST-3, GP-36

1004 Complete HA-4.

1027 Complete HA-5.

1040 Begin Shelby tube boring, ST-1

1100 \* Pushing ST-1. From -2' to -4'.

1112 \* Pushing ST-2. From -2' to -4'.

1120 Gwan Massenburg called, discussed pace of work w/DMS + TS. Said since work is progressing ahead of schedule she would not come tomorrow, but would put visit off until 2nd phase.

1204 All leave site for lunch

1222 TS + DMS return to site

1252 Tim + Mike + (Drillers) return to site

1258 Start hand auger at ST-3.

1317 Abandoned ST-3 - too difficult to drive hand auger through rocky zone into soil. Will try again w/a rig.

1327 Parsons collects equipment blank

1333 Set up on GP-36 (FDSA 4)

1341 0-4' drive on GP-36: loose dk gray silt, fill.

1345 4'-8' drive: loose, dry, orange sand (weathered ss fill).

1353 8'-11' drive: Orange sand, dry (weathered ss fill)

- 1405 Set up on GP-37  
 1413 0'-4' drive from GP-37: Black & gray or mixed fill with sandstone cobbles.  
 1425 4'-6.5' drive: Orange sand & sandstone fill. Temporary well set.  
 \* Temporary well in GP-37. 5' screen.  
 1435 Set up on GP-38.  
 1443 0'-4' sample on GP-38: Loose blk + brn + or. sand & clay fill.  
 1443 4'-8' drive: Brn sand & silt fill, dry.  
 1452 8'-12' drive: Loose Brn + blk silt fill, dry.  
 slight bec. moist ~ 11.9' with pigment-like colors  
 1456 12'-16.3' mixed fill, (coal fragments, sand, etc)  
 moist. Refusal on ss.  
 1528 Set up on GP-39.  
 1513 0'-4' sample from GP-39: Mixed fill of clay, coal, stone, clayey silt, dry. Bitumen odor, felt tip marker-like odor, <sup>gas</sup> malathion-like odor.  
 1549 4'-8' sample: weathered orange ss fill.  
 1555 4'-11.5' sample: Orange + brn sandstone fill.  
 Possible odor similar to 04' sample.  
 PID Readings:  
 0'-4' 5200 ppm  
 4'-8' 336 "  
 8'-11.5' 122 "

- 1610 Set up on GP-40.  
 1621 0'-4' sample from GP-40.  
 Black sand & clay fill to about 2.5', become sandstone fill.  
 1625 4'-8': Brown + orange ss fill, becoming sand fill at ~ 7', bec. silty clay ~ 7.5', damp where sandy, pain-like odor at 8'.  
 1637 8'-12': Gray, brn + orange fill, some damp, with some slight seepage.  
 1653 12'-13': Refusal at 13'. Brn sand, damp, odor.  
 TS says this will complete field work for this week. Drillers will spend remainder of day decommissioning & will return tomorrow to get their trailer. She will notify Mac next week when Parsons is ready to return to sample temp. wells.  
 1700 DJT leaves site, returning to Delaware, OH.
- 